Neutral Citation Number: [2021] EWHC 2531 (TCC)

Case No: HT-2018-000335

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
BUSINESS AND PROPERTY COURTS
OF ENGLAND AND WALES
TECHNOLOGY AND CONSTRUCTION COURT

Royal Courts of Justice
7 Rolls Buildings, Holborn, London EC4A 1NL

Date: 27/09/2021

Before :

MR JUSTICE KERR

- -

Between :

EQUITIX EEEF BIOMASS 2 LIMITED	**Claimant**
- and -	
(1) MICHAEL FOX	**Defendants**
(2) THE ESTATE OF MICHAELA HARRISON-FOX	
(3) DICKINSON ALEXANDER	
(4) DAVID BOTTERILL	
(5) TÖNNIS VAN DER SLUIS	
(6) SARAH-JANE GRAHAM-PEDEL	
(7) CAROLYN JACKSON-SMITH	
(8) THOMAS FOX	
(9) AQUA VENTURES INTERNATIONAL FZE	

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Mr Richard Coplin and Mr Tom Coulson (instructed by **Addleshaw Goddard LLP**) for the **Claimant**
Mr Simon Hargreaves QC and Mr Charlie Thompson (instructed by **Bracewell (UK) LLP**) for the **Defendants**

Hearing dates: 15-18, 22-25 and 29-31 March and 7 May 2021

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Approved Judgment

MR JUSTICE KERR

This judgment was handed down by the judge remotely by circulation to the parties' representatives by email and release to Bailii. The date and time for hand-down is 10:00am on Monday, 27 September 2021.

Mr Justice Kerr :

Introduction

1. In August 2016, the claimant (**Equitix**) purchased from the defendants the entire issued share capital of a company called Gaia Heat Limited (**Gaia**). The terms of the purchase were set out in a written share sale agreement and a later deed of variation (together, **the SSA**). Gaia was a supplier of steam generated by two biomass boilers to a sole customer, Greenergy Biofuels Limited (**Greenergy**). Gaia's contract with Greenergy was terminated by Greenergy in 2017.

2. Equitix claims damages for breaches of certain warranties in the SSA given by the defendants. Equitix asserts that these warranties were false and that it has suffered loss and damage as a result. The claim is for up to £11 million, which is the amount of a liability cap in the SSA. Equitix contends that its actual loss is greater but accepts that liability is capped at that amount.

3. The defendants counterclaim for certain sums they say are due as deferred consideration under the terms of the SSA. Alternatively, they claim damages for loss of the chance of becoming entitled to certain deferred consideration. They also claim certain declaratory relief in respect of possible future dealings or claims as between Gaia and Greenergy.

4. The nine issues for decision in this case (together with several sub-issues) were agreed between the parties and appended to an order made by Fraser J at the pre-trial review on 15 February 2021. The trial took place before me in March 2021, with closing submissions on 7 May 2021. In this judgment, I will first address the facts and then each of the nine issues as defined in Fraser J's order.

The Facts

5. On 21 December 2012, Gaia entered into a written contract with Greenergy for the supply of heat energy, i.e. steam, from biomass (**the Greenergy contract**). Greenergy is a supplier of biofuels based at Immingham, on the Humber estuary. Gaia's premises are next door. The contract was for up to 10 years unless terminated earlier, with two optional five year extension periods.

6. Greenergy agreed to purchase, at a fixed price starting at £49.90 per MWh (megawatt hour) subject to later indexation, the "Agreed Heat Demand" of 76,000 MWh per year (the **AHD**). For each contract year, Greenergy had to purchase or pay for at least the "Guaranteed Minimum Offtake" (the **GMO**), set at 45 per cent of the AHD.

7. There were conditions precedent: planning permissions, environmental permits and accreditation under the government's Renewable Heat Incentive (**RHI**) scheme. Gaia expected income from the RHI scheme as well as from Greenergy. The contract would not start until "the Effective Date", i.e. the date the conditions precedent were fulfilled. Gaia had to provide "the Boiler". It turned out to be two boilers, later called boilers 1 and 2 or "B1" and "B2".

8. If the boilers were unavailable for a continuous period of more than 48 hours due to "unplanned maintenance" not due to a force majeure event, the GMO and AHD would reduce by 1/365 for each complete day of unavailability (clause 5.2). Subject to that, Greenergy had to pay for any shortfall if it took less steam than the GMO in any contract year.

9. Greenergy was responsible for providing "make-up water", also called feedwater, required for the operation of the boiler. The feedwater was required not to be too "hard"; its "direct conductivity" was required to meet certain technical specifications set out in a schedule. Greenergy was required to make any necessary management changes to give "priority" to Gaia's supply of steam from its boiler "as a first provider of heat".

10. There were termination clauses of the usual kind if an "Event of Default" should occur. If Greenergy should terminate the contract following a "Gaia Event of Default", Greenergy had an option to purchase "the Boiler" at a fixed price determined by a table in a schedule, that price reducing year on year (e.g. £7.551 million in year 5, £5.368 million in year 10, £3.184 million in year 15 and £1 million in year 20).

11. On 31 May 2013, Gaia contracted in writing with Eco Link Power Limited (**Eco Link**) for the design, construction, commissioning and testing of a biomass boiler for a contract price of just over £3.368 million. In fact, the specification provided for two boilers collectively called "the Biomass Boiler", using recycled wood and able to supply "nominally 15 tonnes (15,000 kg) per hour of [10 Bar (g) dry saturated] steam".

12. The Biomass Boiler had "to fully comply with the WID [Waste Incineration Directive] and NOx [nitrogen oxide] legislation limits". The installation had to incorporate "[a]ll emissions monitoring required by legislation". The boilers would be made by an Italian company, Uniconfort srl (**Uniconfort**). There was a programme of works for commissioning and testing once the construction phase was complete.

13. In October 2013, Gaia applied for an environmental permit to operate the boilers, which (Gaia explained in its written application) would use "an automated system to monitor the operational conditions … and adjust the supply of fuel / air as required … . Supplementary oil-firing can be brought on-line … as necessary to maintain residence conditions, via an automatic temperature control system".

14. If that did not work, "further protection systems will trip out the waste feed as necessary." It was anticipated that oil-firing (except at start up) would be "very infrequent". The plant was expected normally to operate continuously, with a start up temperature of 850 degrees C, achieved by using oil-firing (kerosene). Once that temperature was reached, the oil feed would cease and "100% biomass load" would take over.

15. There was an explanation of "[p]articulate control", i.e. a mechanical system for removing dust particles from flue gas, using stainless steel bags (bag filters) with a chamber below them for collecting ash and an automatic pneumatic system for cleaning out the bags.

16. Gaia did not expect burning recycled wood fuel would mean exceeding WID emissions limits, it explained. Excess emissions would be prevented by "fuel specification", i.e. burning the right kinds of recycled wood, and "source control", i.e. combustion. The "injection of lime or activated carbon to abate emissions of acid gases, metals and dioxins/furans" was therefore "not considered to represent BAT [best available technology] in this case".

17. Gaia explained that a continuous emissions monitoring system (**CEMS**) would be in place, satisfying regulatory requirements and capable of measuring emissions of the various gases denoted by the abbreviations NO, NO_2, NOx, SO_2, CO_2, N_2O, NH_3, HCl and HF. Monitoring data would be tabulated as "a range of averages", with "warning beacons to alert site operators as limits are being approached".

18. By March 2014, the boilers were in place. Uniconfort issued three documents to go with them: a boiler maintenance plan, a use and maintenance manual and an instructions booklet. In the first of these, Uniconfort explained that based on 8,000 hours of operation per year, the boiler should be shut down for cold maintenance in two annual "short stops" of 100 hours each, one "intermediate stop" of about 140 hours and one "long stop" of about 400 hours.

19. Maintenance activities for each stop were described, including cleaning during the short stops and photographing the internal condition of the boiler to compare the condition of the refractory and ash accumulation. The bag filters should be cleaned once a year, during the long stop, and replaced if necessary. Various normal "hot boiler" maintenance tasks were advised for each shift. During the second year, among other things the combustion chamber width and "cracking refractory" would need to be checked, according to the maintenance plan.

20. The use and maintenance manual then set out in more detail the technical specifications and diagnostic techniques for troubleshooting, in a manner not unlike a manual for an ordinary domestic appliance, but more sophisticated and complicated. In the accompanying instructions booklet, more information was provided about how to operate and maintain the boiler.

21. For "draining and checking", the manual explained that every day the boiler draining system should be opened "to remove the newly formed mud"; "[t]he quantity of water per hour (kg/h) to be drained depends on the quantity of TDS (total dissolved solids) in the fed [sic] water and boiler", illustrated by a formula comparing the TDS in the feedwater with the TDS in the boiler water.

22. The manual included boiler water specifications including a limit of 3,500 milligrams total dissolved solids per litre of water, also the limit set by a British Standard specification going back to 1997. The draining procedure to avoid a build up of total dissolved solids (**TDS**) is also known as "blowing down" or performing a "blowdown", in the vivid industry jargon.

23. The importance of this operation was emphasised in the booklet:

> "if you drain a small quantity of water, you can face the risk of scaling, entrainment and corrosion; on the contrary, if you drain too much water, you waste heat, i.e. fuel."

24. On 12 May 2014, the Environment Agency (the **EA**) issued the permit for which Gaia had applied (under the Environmental Permitting (England and Wales) Regulations 2010), subject to written "conditions". These included, as you would expect, regulatory provisions determining the scope of permitted activities and the methods to be used in carrying them out.

25. Thus, the activities had to be operated in accordance with a written management system that identifies and minimises risks of pollution (clause 1.1.1), with proper records kept (1.1.2). A table (table S1.2 and 2.1.1) required the operating techniques to be those set out in Gaia's application for the permit, unless otherwise agreed in writing with the EA.

26. Waste fuel (i.e. recycled wood) must not be loaded if the combustion chamber temperature fell below 850 degrees C or if "any continuous emission limit value in schedule 3 table is exceeded, other than under abnormal operating conditions" (2.3.6(b)); nor if "monitoring results required to demonstrate compliance with any continuous emission limit value … are unavailable other than under abnormal operating conditions" (2.3.6(c)).

27. Gaia had to have at least one "auxiliary burner" per boiler for use at start up, shut down, or when the temperature was below 850 degrees C and when the temperature was lower than that, the burner "may be fed only with fuels which result in emissions no higher than those arising from the use of gas oil, liquefied gas or natural gas" (2.3.7).

28. The relevant limits for various substances (expressed as averages over varying periods) were then set out in schedule 3, in the table called S3.1. Abnormal operation was defined in schedule 6 as:

> "… any technically unavoidable stoppages, disturbances, or failures of the abatement plant or the measurement devices, during which the emissions into the air and the discharges of waste may exceed the prescribed emission limit values".

29. The operator was obliged to end any period of abnormal operation as rapidly as possible (2.3.9). The operator was further required to "interpret" the end of a period of abnormal operation as the earliest of various events (2.3.11). These were (2.3.11(a)-(d)) repair of failed equipment so it was brought back to normal operation; a shut down of operation agreed with the EA; a maximum period of four hours; or an aggregated period of 60 hours in any calendar year.

30. Thus, abnormal operation could not last more than four hours at a stretch, nor more than 60 hours in a calendar year; if it did, operation would no longer be deemed abnormal and any excess over emission limits (called an "exceedance" in the trade) would have to be reported.

31. The monitoring and reporting obligations were set out in some detail (3.3 and 4.2). Appropriate measuring equipment (CEMS) were required. Any significant incident or breach of any permit condition had to be immediately notified to the EA (4.3.1) and remedial measures taken straight away.

32. By 6 August 2014, Mr Alex Dickinson, Gaia's then technical director (the third defendant) was liaising with Eco Link and Uniconfort about starting operations. On 6 August 2014, Mr Dickinson expressed impatience about delayed delivery of waste wood and confirmed that "we were going to run the boiler on waste wood without ensuring that (in this instance) CEMS reporting was in place".

33. He complained to Uniconfort on 20 August 2014 that the boiler would not restart and "[t]he plant is not working". He asked to be given "some semblance of credibility" with Greenergy and said he was "struggling to defend against being called a 'joke' by my client!" He did not want to burn "virgin wood" as this was not commercially viable but was willing to do so for a short time to maintain some "credibility" with the client.

34. On 2 October 2014, the EA carried out an unannounced inspection during "plant commissioning" (according to the EA's record) and noted three breaches of the permit conditions, including a breach of the reporting obligation in 4.3.1. While the "stack emissions monitoring points" were suitably placed, "working platforms for third party testing" were "secured only to the stack and not the main building structure". A report and action plan were required.

35. After that, apparently at the EA's suggestion, Gaia engaged the services of a Mr Nathan Lewis-Johnson who, in November 2014, assisted with reporting to the EA of an incident on 21 November when emissions exceeded permitted limits for about four minutes while virgin wood was being burned. Mr Martin Brownlee, Gaia's plant manager (then employed by Eco Link, subsequently by Gaia), emailed the EA himself to report the incident.

36. On 19 December 2014, Greenergy wrote to Gaia complaining that two years after the Greenergy contract was signed, "there is still no supply of steam". He referred to contamination of the boilers during the commissioning phase, denying that this was Greenergy's fault. He complained of a "broken project" and of escalating costs. He proposed that they should agree terms for Greenergy to take over the commissioning process and ownership of the boilers. However, that did not happen.

37. Mr Ben Cashin, then a director of Equitix, was at that time involved in discussions with Gaia's corporate finance advisers, Rothschild & Co (**Rothschild**), about possible purchase of Gaia. Rothschild was represented by Mr Rob Dunnett, a director of its global financial advisory group. He produced a "Project Tree" document sub-headed "Information Memorandum" in February 2015 consisting of an appraisal of Gaia and its business.

38. By February 2015, Gaia's plant had started to produce steam but was over-dependent on virgin wood and oil burning. On 23 February, there was a fire in the "phoenix" (the exit to the fire burning part of the boilers and part of the ash removal system) of boiler 1. Mr Brownlee discovered the next day on removing the inspection doors that "the internal tunnel refractory had collapsed".

39. Some of these and other problems were discussed at a Gaia board meeting on 15 March 2015, attended by (among others) Mr Tönnis van der Sluis, one of the directors (the fifth defendant) who later (in about October 2015) penned a detailed unsent email expressing strong dissatisfaction with Gaia's performance and with Mr Dickinson's management and oversight.

40. Mr Dickinson told the board on 15 March 2015 that the output of steam was limited to six tonnes per hour per boiler and that Greenergy were only allowing one of the two boilers to run at a time, to safeguard the position of "ISCO" (subsequently "InterTerminals") which also supplied steam to Greenergy from oil fired boilers through the same feed line, in competition with Gaia.

41. Mr Dickinson also complained to the board of untreated impure feedwater from Greenergy; and that the "condensate return system" was not commissioned. The "condensate return" denoted unused "condensate", i.e. steam that had become water, being returned to Gaia's boilers. Condensate return was worth money to Gaia, under the government's RHI scheme, because it could be re-used in the boilers.

42. A meeting with Greenergy on Gaia's site occurred on 16 March 2015. Mr Rob Brocklesby, Greenergy's managing director, was there. He described the meeting in a letter he wrote later. He was unhappy with the condition and functioning of the site and with intermittent and insufficient supply of steam. He asked Gaia to put in place a remedial plan for improved performance; Gaia asked for two weeks to fix the problems.

43. On or about 24 March 2015, Eco Link went into administration. Mr Brownlee stayed on as plant manager working directly for Gaia. Mr Dickinson reported to the directors on 31 March that the feedwater was "way off spec", "damaging the boilers, making the controls inactive, … putting a scale on the probes a bit like a furred up kettle element so that the controls go haywire". He also repeated his complaint that "the boiler is being run as lag deliberately", i.e. the competitor's oil fired boiler was being preferred as lead supplier to Greenergy.

44. On 31 March 2015 (effective a month later) Mr Dickinson issued a document setting out an instruction to site operators to use Gaia's "standard operating procedure" on "incident and accident reporting". In the document, he emphasised the need to comply with the environmental permit, the monitoring of emissions by the CEMS and the importance of the obligation to report any breaches to the EA. A notification template was included.

45. On 29 April 2015, Equitix made an initial indicative offer (subject to contract) of £25 million for the outright acquisition of Gaia. The latter then provided a document to Equitix (dating from a few days earlier) setting out certain financial projections about the performance of the business on the basis of six "pre-modelled scenarios" (**the financial model**).

46. The financial model stated, among other things, that in the pre-modelled scenarios, 100 per cent output meant 100 per cent of AHD, "not maximum boiler output which is almost 30% higher". The first scenario was the "base case" with the plant "running at AHD of 76,000 MWh for the duration of the Greenergy … Contract. This is equivalent to 12.67 te [tonnes] steam per hour".

47. A variant of the base case envisaged production of steam at 13.4 tonnes of steam per hour for the duration of the Greenergy contract, with 60 per cent of condensate being returned, thereby requiring more feedwater than if 100 per cent of condensate were returned and at a lower temperature than the condensate it replaces.

48. A "downside scenario" assumed that Greenergy would take only the GMO for the duration of the contract. An "upside scenario", by contrast, assumed "the boiler running at full output for 8,468 hours per year which is expected to be the maximum output scenario". A further "downside case" assumed "zero demand" from Greenergy with the boilers not running, therefore no income from RHI and the Greenergy contract terminated.

49. The six scenarios were supported by detailed spreadsheets setting out projections over 20 years, the maximum duration of the Greenergy contract. Equitix considered these projections over the following months as it undertook financial due diligence with a view to refining its initial indicative offer of £25 million for Gaia.

50. By 5 May 2015, Greenergy remained unsatisfied with Gaia's performance. Mr Brocklesby wrote to Mr Michael Fox (the first defendant), founder and chairman of the board of Gaia, saying so in trenchant terms and proposing "an open discussion on how best to salvage the value of the boilers themselves". He asked Mr Fox to call him as soon as possible "to fix a meeting … to agree the next steps for an orderly return of the site".

51. Gaia responded with a long formal letter of 15 May 2015 accusing Greenergy of various breaches over the previous two and a half years, including providing impure feedwater; requiring the breaches to be remedied and reserving Gaia's rights. The same day, Gaia agreed in writing with Uniconfort that in return for certain payments, Uniconfort's engineers would do the work necessary to complete the commissioning process for the two boilers by 20 May 2015.

52. By 22 May 2015, Gaia was seeking a commissioning certificate from Uniconfort. Mr Fox emailed Mr Dickinson that "we had said we would say it was commissioned and that its going through performance and reliability tests …". Mr Dickinson replied: "[t]hat is what we are saying, you know its not the truth". Mr Fox's response in philosophical vein was "[w]hat is truth"; to which Mr Dickinson more prosaically retorted: "[t]he truth is the plant is not fully commissioned" but denied there was any obligation to provide a certificate.

53. On 27 May 2015, Mr Brownlee reported on a "dismal day"; Greenergy had been reluctant to accept any steam but eventually agreed to do so; the furnace temperature in boiler 1 was then too low, at 350 degrees C, making use of recycled wood unviable without breaching the permit which set a minimum of 850 degrees C; so the oil burner had to be used to heat the furnace. By the end of the day both boilers were shut down.

54. Mr Brownlee's mood had not improved by 30 May 2015, when he emailed "[w]hat a bloody shambles" before launching into a description of further problems. He suggested putting pressure on Uniconfort's commissioning engineers to attend the site personally the following Monday, rather than have them attempting to operate the boilers remotely from Italy.

55. Problems continued through June 2015. Plant log book entries for 19, 20, 23, 29 and 30 June recorded boiler 2 tripping with "min [minimum] depression" (19 June); "total shit day" (20 June); boiler 2 being shut down with water feed problems (23 June, described by Mr Brownlee as "a very bad night"); the boiler 1 fans being "not operable"; "burner still not working on B1"; and the like.

56. Uniconfort engineers did attend during that month (to less than universal acclaim from Gaia staff) and on 30 June 2015 issued a "certificate of commissioning" for each of the two boilers. The tone of the log book entries improved in July 2015, apart from an incident when boiler 2 "tripped" on 11 July and several incidents on the night of 14 July.

57. On 22 July 2015, Mr Cashin presented to the board of Equitix his "Gate 2 paper" seeking approval to make a "final" offer for Gaia. It was a reasoned appraisal of the project, expected returns, risk and sensitivities. These included reference to the risk of Uniconfort becoming insolvent; current testing procedures being overseen by Fichtner Consulting Engineers Limited (**Fichtner**) on behalf of Gaia; the need for a satisfactory operation and maintenance (**O&M**) contractor; and the possibility that the Greenergy contract would end after 10 years.

58. Appendix 2 provided graphics comparing actual "historic steam demand" with different levels of "forecast steam demand following Greenergy plant expansion" based on the various case scenarios. The extent of Greenergy's demand was clearly an important variable. The "sensitivities" were in appendix 5 to the Gate 2 paper, with a projected internal rate of return (**IRR**) for each and average yields over varying timescales during the Greenergy contract period.

59. The "base case" assumed an output of 12.7 tonnes of steam per hour, a figure probably derived from the 12.67 tonnes in the financial model. This produced an anticipated IRR of 16.71 per cent over 20 years or 10.92 per cent over 10 years. The best case assumed 13.8 tonnes of steam per hour which, with other variables optimised, produced an IRR of 19.24 per cent over 20 years and 13.71 per cent over 10 years. In the worst case, if only the GMO were paid for, the IRR would be 5.14 per cent over 20 years and minus 2.53 per cent over 10 years.

60. In late July and early August 2015, Equitix made revised offers for Gaia involving a smaller capital sum than the £25 million originally offered; with an element of deferred consideration linked to realised dividends over the first five years following the acquisition. Neither offer was acceptable to the defendants, but discussions about Equitix acquiring Gaia continued.

61. The defendants, for their part, had commissioned a report from Fichtner. The scope of Fichtner's brief was emailed by Mr Dunnett of Rothschild to Mr Cashin on 7 August 2015. Mr Cashin forwarded it to Dr Egan Archer, a chartered chemical engineer and director of Equitix. Dr Archer considered that Equitix needed to commission its own report.

62. In the same email, Mr Dunnett sent Mr Cashin some recent actual steam output data for the period 27 July to 7 August 2015, provided to him by Gaia or the defendants. The highest and lowest steam output measured in tonnes per hour were 12.08 and 5.83, respectively. Thus, the highest output during that period did not match the 12.67 tonnes per hour envisaged in the first of the six scenarios in the financial model, corresponding to the AHD of 76,000 mWh per year.

63. On 13 August 2015, an operator called Mark at Gaia's plant expressed his increasing concern about the "'[m]ust produce steam at all cost mentality' now apparent at this facility". He said he could not "keep quiet" any longer due to the "negative effect" of

"the blatant disregard for the upkeep of the plant [and] the safety of the workforce". Mr Dickinson responded that those matters should be discussed further.

64. On 20 August 2015, Dr Archer engaged Ove Arup & Partners Limited (**Arup**) to provide a report on Gaia's plant and business. Mr Simon Iredale, Arup's principal energy consultant, arranged to meet Dr Archer on 25 August for a site visit but Dr Archer was unable to attend due to a cancellation on the railway. There is no direct evidence about the site visit but Mr Iredale reported back to Dr Archer on 4 September 2015 with a list of further questions to ask of Gaia.

65. Another Gaia operator called Mike emailed Mr Brownlee on 28 August 2015 with a subject line discourteous to Uniconfort's Italian personnel, or possibly to Italians generally. He described his email as "not a shift report more of a rant…" which had brought him very close to resigning. He explained how overheating in the furnace was causing a "min [minimum] depression" or "lockout".

66. He listed six specific complaints and warned portentously that "major problems" lay ahead if the boilers continued to be run in the same way. More moderately expressed correspondence in similar vein was passing between Uniconfort and Mr Dickinson, noting that boiler 1 was "struggling" and that planned performance testing would probably be disrupted by the need to shut it down and carry out the annual inspection instead.

67. On 3 September 2015, Mr Brownlee reported to Mr Dickinson that there were "significant cracks" in the refractory brick lining within the chamber of boiler 1. There were safety concerns arising from "open fractures along sections of the brickwork" making "a stress or weak point". Photographs by Uniconfort taken on 8 September showed "a welding on the pressure part" not agreed with Uniconfort, which refused to accept the defect as covered by its warranty.

68. Email exchanges on 9 September 2015 between Mr Fox and Mr Dickinson became heated, with robust language used. On 21 September, Uniconfort complained of "non contractual" fuel containing iron pieces and glass; and that for the previous year the bag filters were not active and the boilers had "worked without a proper flue gas system", resulting in circulation of "dirty flue gases", with consequent "fouling of the boiler" that was "very severe".

69. Fichtner produced a draft of its technical due diligence report (**the Fichtner report**) on 23 September 2015. It was provided to Equitix and seen by Mr Cashin and Dr Archer. Fichtner had "not seen evidence that the plant has ever exported 15 tonnes/hour of steam to Greenergy"; they had seen "some evidence that the plant has periodically met the heat demand by Greenergy up to 10 tonnes/hour" but "the long term ability of the plant to meet the full demand [has] not been demonstrated" (paras 2.1(7) and (8)).

70. Later in the Fichtner report, they pointed out that each boiler discharges flue gas to "a common chimney stack" and "[o]ne set of … [CEMS] is used to monitor emissions from both boilers" (4.2.4). And, the required performance of 15 tonnes per hour of steam at a given pressure, boiler efficiency and condensate return temperature had to be "represented by two independent performance tests aggregated as the heat load is not predictable or always sufficient to run both boilers simultaneously at full load" (4.4.1).

71. Similarly, in the introductory section, Fichtner noted that performance tests had been carried out only on boiler 2, not yet on boiler 1; and "Fichtner has not seen the plant operate with both boilers and produce the maximum design output" which, according to the description of the six scenarios in the financial memorandum, would be expected to lie in the region of 16-17 tonnes per hour (i.e. 12.67 plus about 30 per cent).

72. A meeting with Gaia attended by Mr Iredale of Arup, Dr Archer and others, took place at Rothschild's Leeds office on 28 September 2015. In advance, Mr Iredale sent Dr Archer a list of further questions and various documents to which access was needed, including a copy of "current site operator's log". Mr Iredale confirmed to Mr Dickinson and others afterwards the documents he wanted to see, including "Operation Log (2 weeks of pictures)".

73. In early October 2015, Mr van der Sluis was expressing dissatisfaction (in his unsent email already mentioned) with Gaia's management and in particular (but not only) Mr Dickinson; he did not have "operational nor technical control". He regarded Mr Dickinson as slippery and blamed him for a lack of progress in attracting investment for Gaia: "we still do not have a properly working plant that we can take potential customers to".

74. On 5 October 2015, Mr Dickinson sent to Mr Dunnett and others "photos of the site log book for Arup", for disclosure in the "main data room" containing documents disclosed for the purpose of the sale negotiations. He sent eight pages of mainly innocuous log book entries from July and October 2015, not including those dating from June 2015 describing serious issues. Mr Iredale did not press the point; he recorded against his request: "Received & Approved".

75. The company Equitix envisaged as becoming responsible for operation and maintenance (**O&M**) at Gaia's plant was then called Cofely Workplace Limited (**Cofely**). On 12 October 2015, Cofely provided indicative information to Mr Cashin about O&M costs if it were appointed as O&M contractor. It included sums "for annual refractory repairs"; guidance was awaited from Gaia and Uniconfort on "the estimated cost … to replace the refractory in each boiler".

76. Mr Dickinson provided his response on this point the same day. He said the refractory did not come into contact with pressure parts and therefore did not need regular removal every five years; it was:

> "3 bricks thick and doesn't have a life cycle. It is closer to a 'Trigger's Broom' approach. As cracks appear, they are repaired. If cracks join up, then that section of the furnace is removed and replaced. It is not envisaged that the entire furnace will be periodically replaced".

77. To the uninitiated (not familiar with either *Only Fools and Horses* or, as Mr Simon Hargreaves QC noted, Heraclitus writing about Theseus' ship) Mr Dickinson meant that parts of the refractory in need of replacement are repaired and replaced piecemeal when necessary, without the whole refractory ever being replaced on a single occasion.

78. Also on 12 October 2015, Equitix produced a report for investors on its proposed investment in "Project Gaia". It included estimated figures to cover a "range of sensitivities", with an anticipated IRR and average yields over five year periods, based

on different scenarios, including a 10 year or 20 year timescale and different "base cases".

79. These were the "Gate 2 Base Case" (12.7 tonnes per hour, assumed O&M pricing); the "revised base case" (11.8 tonnes per hour based on current use and recommended by Arup, fully manned operations with Gaia's O&M pricing and the introduction of Cofely's O&M pricing; and another variant, the "Gate 4 revised base case". The overall IRR ranged from 13.8 per cent to 16 per cent.

80. The analysis was "based on the vendor model", i.e. the financial model; but "[r]unning the same assumption through the Equitix model yields a base case IRR of 14.3%", the difference being largely due to the vendor's practice of calculating equity cashflows on an annual basis rather than monthly or six monthly.

81. The same day, 12 October 2015, Mr Dickinson reported to Equitix "issues with boiler 1" endangering Gaia's ability to meet demand for steam and forthcoming performance tests. He proposed to postpone the test if he thought it would not be passed and "if I need to postpone it I will use Italian availability as an excuse rather than flag potential issues". In oral evidence, Mr Dickinson accepted that this passage showed he was planning to use an untruth if necessary.

82. On 14 October 2015, Mr Fox sought from Greenergy's Mr Brocklesby confirmation that Greenergy regarded previously expressed contractual grievances as closed and stated that, for its part, Gaia was happy to provide reciprocal confirmation. Mr Brocklesby replied tersely: "[a]ll such issues that we exchanged correspondence are now closed". Gaia responded in kind.

83. On 13 October 2015, a log book entry showed a build up of solid material at the end of the grate, causing the "fucomatic" – the device that pushes wood into the furnace for combustion there – to stop working until the blockage is cleared. This had happened repeatedly, causing the furnace temperature to drop to 760 degrees C, below the environmental permit minimum of 850 degrees needed for use of recycled waste wood as fuel. On 25 October, both boilers were needing regular blowdowns due to high levels of TDS.

84. There were various issues outstanding in Mr Cashin's discussions with Gaia and Cofely about certain costings. Cofely evidently did not accept Mr Dickinson's "Trigger's Broom" approach to refractory replacement; Mr Colin Murray of Cofely emailed on 29 October 2015 that the "life cycle" of the refractory was an outstanding question, as was the level of predicted usage of kerosene for oil firing.

85. Cofely was soon to become Engie Services Limited (**Engie**). On 30 October 2015, Mr Cashin was able to meet Mr Brocklesby of Greenergy, with Mr David Botterill, Gaia's chief financial officer (the fourth defendant) also present. I accept Mr Cashin's evidence that at Mr Fox's request, Mr Cashin avoided wading into any controversial waters in the presence of Mr Brocklesby but did mention Equitix's intention to appoint an O&M contractor, possibly Engie.

86. During November 2015, Mr Cashin, Dr Archer, and Mr Iredale of Arup were engaged in seeking answers to outstanding due diligence queries of Gaia, represented by Mr

Dickinson and Mr Brownlee, on the subject of emissions, CEMS data, any exceedances of permit limits and refractory life.

87. On the latter, Mr Dickinson eventually stated on 10 November that Uniconfort had verbally stated that refractory life was "that of the boiler, subject to proper routine maintenance". He later explained (on 18 November) that Uniconfort were reluctant to put that into writing: "it may be a language issue, but I appear to have set hares running".

88. As for emissions limits and any exceedances, Dr Archer considered Gaia was avoiding answering the straightforward question "[h]as the plant operated continuously within its emissions limits since commissioning commenced and when the plant had been operated using waste wood only?" Arup, Rothschild and Equitix were all involved in the trail of emails pursuing this topic.

89. On 8 November 2015, Mr Dickinson wrote to Mr Will Scales of Rothschild that "[w]e have to comply with our permit" and that "[a]s things stand, we are meeting our emissions", with the help of injections of lime and urea. However, internal emails within Gaia's management contradicted that and vindicate Dr Archer's view. Mr Dickinson suggested to Mr Brownlee on 11 November that "we may need to be 'selective' if we have had days when the lads haven't been keeping an eye on emissions".

90. The next day, in an email copied to Mr Dunnett and Mr Scales, he blamed Gaia's internet connection but admitted that having "interrogated the system … the readings are not good" though he denied any breach of the EA permit. Mr Dickinson suggested he should send a "nice email" to Dr Archer "saying we cannot extract the data". He attached a spreadsheet showing several emissions exceedances.

91. Mr Scales responded that his reading was that "we are in breach on CO, Nox, HCl and DUST on at least one or more days". He connived at Mr Dickinson's suggestion: "on the basis that you are not happy or confident with the data I think it better to take the nice email option", though he warned that Dr Archer might "walk off into the sunset".

92. Mr Dickinson sent what he accepted was his "nice email" on 13 November 2015, to Dr Archer, copied to Rothschild and to Equitix's lawyers. He again blamed an internet connection issue, attached emissions reports for September and October 2015, but not any later. He played down what would appear from the email to be minor exceedances.

93. From 24 to 28 November 2015, log book entries show recurrent problems. One was that "hourly blowdowns" of the boilers became at one point "essential". At one stage, "B1" was "going haywire"; later, it restarted but was "eratic" [sic] and had to be put in manual mode to settle. The operators were "pushing both boilers to try and increase steam export"; but "pushing B2" was causing "moving grate material issues". This caused the fucomatic to stop pushing more wood into the furnace, in turn causing the temperature to drop.

94. In November 2015, Arup produced a draft of its report to Equitix providing its preliminary technical and commercial assessment. The report was not finalised until January 2016, after Equitix had entered into an initial agreement to buy Gaia's shares. Arup's executive summary made the well known point that biomass boilers do not

respond as quickly as oil fired boilers to rapid demand fluctuations and operate most efficiently under a constant load.

95. Arup noted that performance tests in July and October 2015 had produced 8.49 tonnes per hour at 90.37 per cent efficiency (boiler 1) and 7.86 tonnes per hour at 89.14 per cent efficiency (boiler 2); but that the testing method "is known to carry uncertainty due to the variability of the fuel burned" and that many variables "were calculated or assumed rather than measured and tested", adding to the uncertainty of the test but not to a material level of change."

96. Arup also noted in the executive summary that maximum output was about 20 per cent above the AHD, should Greenergy's demand increase, while consumption "fluctuates between 26,000 and 75,000 MWh", with lower values usually corresponding to plant shutdowns. Infrequently, demand would drop to significantly below normal for short periods.

97. The draft report dealt with operational incidents, the environmental permit and emissions monitoring. No serious concerns were raised about these. Operational incidents had been met by "corrective actions … undertaken to prevent this happening in the future". There was no mention of any exceedances of emissions limits.

98. However, on 6 December 2015, Mr Brownlee and Mr Dickinson were corresponding about levels of emissions in breach of the permit and discovered "an issue with the urea dosing" which required help from Uniconfort in Italy. As boiler 2 was shut down for planned maintenance, it could not be brought online; both boilers were shut down for a time.

99. On 21 December 2015, the regulator, Ofgem, wrote to Gaia confirming that the plant had been accepted onto the RHI scheme with effect from 1 July 2015, thus qualifying for RHI payments. Two days later, on 23 December, Equitix entered into the original version of a share sale agreement, whereby Equitix was to purchase all the shares in Gaia (**the original SSA**). It was later amended in August 2016, on changed terms I will address later.

100. The contract price was £16.45 million, but that figure was split into initial consideration and deferred consideration. The £16.45 million was adjusted to take account of a debt of about £6 million owed to Lloyds Bank, to be paid off by Equitix; other debts to be paid to the ninth defendant (**Aqua Ventures**) and an element of deferred consideration depending on the amount, not yet known, of RHI payments to be received.

101. There were also conditions precedent to completion of the acquisition, in clause 4 of the original SSA. These were, first, execution of a lease and license in Gaia's favour, in respect of the plant; and second, provision by Greenergy of a "comfort letter" in agreed form. A deadline date of 31 January 2016 was included in the original SSA for fulfilment of the conditions.

102. The original SSA, and the later amended version, contained certain warranties I will consider in more detail soon. In the usual way, a disclosure letter was provided against those warranties. It was dated 23 December 2015 and contained 12 pages of disclosures. When the original SSA was amended in August 2016, an updated

disclosure letter was provided. The disclosures thereby made, or not made, will be considered later in this judgment.

103. As the conditions precedent to completion had not yet been fulfilled, ownership of Gaia did not at first change after the original SSA was entered into. On Christmas Eve 2015, the next day, there were log book entries at the plant showing an eventful night. The problems were familiar to operators: uneven combustion leading to uneven feed of wood into the furnace. This time, it appears to have caused a fire in the phoenix, leading to shut down of boiler 2.

104. On the night of new year's eve 2015, the temperature appears not to have risen above 825 degrees C, below the threshold of 850 degrees for burning recycled wood. The next day, 1 January 2016, emissions of nitrogen oxide and sulphur dioxide were too high. An increased dose of urea was applied in an attempt, apparently not successful, to reduce the level of those emissions.

105. On 1 January 2016, Mr Dickinson emailed Mr Cashin and Dr Archer about site activities since mid-December. He said "it has been very eventful, with the boilers performing well" but with "a resolvable problem" on controls of a steam export valve added "to help manage Greenergy load fluctuations". He blamed a sudden pressure drop by InterTerminals for causing "our water levels to go haywire".

106. The issue "was simply InterTerminals dropping load too quickly so the biomass plant could not ramp up to meet the sudden increase in demand". The "load swings" became more erratic, the boilers "slammed on and off" and "we got a lot of unburned fuel and hot ash in the ash systems as the boilers tried to cope with the load swings".

107. Later, on 28 December 2015, these load swings became "intolerable", Mr Dickinson explained; causing "huge water level fluctuations in the boiler drum", such that the boilers had to be shut down. Since then, Gaia had run only one boiler "as lag to InterTerminals and produced circa 4-5 tonnes an hour".

108. Dr Archer was concerned that despite Mr Dickinson's "positive spin from Gaia's point of view", it was likely Greenergy considered that "given the opportunity to lead steam supply the biomass plant just cannot cope". He warned Mr Cashin in an email on 2 January 2016 that Mr Dickinson's summary is "the sort of thing that might spook Tony Crane", the director of the prospective O&M contractor, Cofely (soon to be Engie).

109. A meeting took place on 4 January 2016, with representatives of Equitix, Gaia, Greenergy and Cofely present, to discuss the fulfilment of the conditions precedent to completion of the acquisition of Gaia by Equitix. The meeting was, as reported the same day by Mr Botterill to Gaia's board, reasonably positive; Cofely gave a presentation showing how it proposed to manage the plant. Mr Botterill said he would send to Greenergy a draft of the comfort letter.

110. On the night of 20 January 2016, boiler 2 "tripped" and had to be restarted; two hours after it was restarted, as the log book entry shows, there was a "large fire and build up of fuel in the furnace too close to the phoenix". Later that night there remained a high temperature issue and the fuel supply to the boiler had to be shut off; there was a small fire in the phoenix at 2am and the boiler was put into manual to prevent fire.

111. On 29 January 2016, the operators reported to Mr Brownlee in the early morning that boiler 1 performed well all night, as did boiler 2, apart from "the continuing temp[erature] issue above the grate which is preventing us from pushing the boiler any further". There were also "[e]missions problems all night due to Lime & Urea dosing systems being so problematic".

112. The deadline date of 31 January 2016 came and went without the conditions precedent to completion being fulfilled. There was no prospect of Greenergy being willing to provide the comfort letter; nor was the lease of the facility in place. This led to the first of what became a series of agreed extensions to that deadline and changes to the conditions precedent.

113. On 5 February 2016, Mr Dunnett of Rothschild relayed to Mr Cashin and Dr Archer some further commentary from Mr Dickinson, with an attached updated "efficiency log" to the end of January 2016 and an update of "the Greenergy demand position, with a comparison to our supply" also to the end of January. Mr Dickinson's commentary lamented the advantage InterTerminals enjoyed through the faster response time of its oil fired system and repeated the bad effect of load fluctuations on Gaia's supply capability.

114. The efficiency log showed steam output figures in "net heat produced", in kilowatt hours from mid-May 2015 to the end of January 2016. The simple "steam demand" graph showed Greenergy's demand from early September 2015 to the end of January 2016. Demand was in the range from 8-12 tonnes of steam per hour, persistently outstripping Gaia's supply which was in a range from zero to 7 tonnes per hour.

115. Mr Dickinson's commentary concluded: "it has become very clear … that the installation of control equipment at the InterTerminals supply point or the Greenergy site is absolutely necessary to provide a good operating environment".

116. At about the same time, Mr Cashin reported on progress to Equitix's chief executive officer, Mr Geoff Jackson; obtaining a comfort letter from Greenergy was "complex" because of "general operation of the plant" and an insurance claim, then ongoing. Mr Cashin proposed to overcome Greenergy's scepticism by demonstrating improved performance of the plant under new ownership and with Cofely in place as O&M contractor.

117. Then on 9 February 2016, Mr Jackson himself attended a meeting with Mr Dunnett of Rothschild, Mr Brocklesby and Mr Andrew Owens of Greenergy, Mr Cashin and Dr Archer of Equitix and representatives of Cofely. Mr Dunnett reported to Mr Fox afterwards that it was a "bad meeting"; Greenergy said the plant "did not work"; Gaia were in breach of contract and Greenergy could terminate the contract at any time.

118. Mr Dunnett went on to add that there were "numerous other extremely negative statements which I won't re-cant [repeat] here". Mr Cashin's email of 11 February 2016 described the meeting as "very challenging" and that it was "not clear whether there is a solution to the issues". He explained during his oral evidence that the negative statements had included a suggestion from Mr Owens that he would have Dr Archer thrown out of a window by a security guard.

119. Mr Cashin recommended to Mr Jackson and others that the vendors (the defendants) and Rothschild should be given two weeks to find a solution that would enable the conditions precedent to be satisfied and Greenergy's threats withdrawn; pending which no further time or money should be spent on the project. However, a letter of 19 February 2016 (misdated 2015) from Mr Owens of Greenergy to Mr Fox of Gaia did not bode well for their future relations.

120. Mr Owens complained in the letter that the boilers were "not … fit for purpose"; Gaia was making "misleading statements" and there were "lapses" and a "lack of Gaia operating and reporting standards". A sub-heading referred to a "culture of spin and denial", citing a failure to report the recent fire in the boilers' exhaust and the "disingenuous" statement that not restarting the boilers was "down to Greenergy not asking for steam".

121. In mid-April 2016, both Gaia boilers were shut down for their annual insurance inspection. Mr Brownlee reported to Mr Fox and Mr Dickinson on 17 April that the insurer's inspector had found a suspected crack on the tube plate of the boiler 1 gusset which, however, by a "miracle" passed its inspection. There was "no build up of scale between the boiler shell and the tubes" and "no signs of deterioration or tube failures"; both boilers had "some cracking in the refractory bricks" but "it is thought … this has not deteriorated to the internal refractory".

122. Discussions were underway towards appointing Engie as O&M contractor and arranging the installation of a control valve system to regulate the proportion of steam supply by, respectively, Gaia and InterTerminals and to help minimise the latter's evident advantage from use of oil firing. Greenergy produced a "scope of works" document for the proposed control valve system, dated 10 June 2016.

123. A mechanical engineer, Danny Howlett (seconded from Arup to Equitix) made site visits on 19 and 24 May 2016. In an email of 23 May 2016, Mr Howlett reported disappointing steam usage data from Gaia: based on a model of 44 weeks, the average annual prorated steam usage was only 34,885.6 MWh, less than half the 76,000 MWh in the "base case" scenario.

124. Mr Cashin briefed Equitix's fund investment committee on 16 June that Gaia and Greenergy were not working well together and that "revised control systems", i.e. the proposed control valve system, were to be installed to "mitigate the issues".

125. Log book entries in May and June 2016 continued to record problems relating to "min depression", boiler 2 tripping, high levels of dosing with urea, high TDS levels and frequent blowdowns, sometimes hourly, as well as the repeated need to stop use of the bag filters, putting the boiler 2 bag filter into "bypass mode". Evidently, these recurrent problems had not gone away.

126. Mr Dickinson's performance was, at this time, not well regarded either by some of his colleagues on the board of Gaia, nor by Mr Cashin or Dr Archer on Equitix's side. The latter did not consider Mr Dickinson honest and straightforward and in late June 2016 declined to meet him. However, Mr Dickinson was kept on by Gaia partly because he was needed to help secure Engie's appointment as O&M contractor.

127. On 4 July 2016, Arup reported to Equitix on its concerns about low steam output. A control valve system, Arup reported, was not a complete answer. It would not address the point that biomass boilers are slow to react to fluctuating demand. Thus, even when Gaia was acting as sole supplier (as it had over the weekend of 4-5 June), the boilers could not react quickly enough to a sudden increase in Greenergy's demand.

128. Pressure had dropped rapidly and the intervention of InterTerminals was needed "to bring line pressures up". The control valve system would not solve this problem. Arup concluded that the control valve system would help by shutting off InterTerminals' supply "during normal operation" but would not "provide a solution to the root cause of the problem"; that "biomass boilers cannot modulate rapidly and therefore will not meet the demand profile of Greenergy".

129. Greenergy was and remained unwilling to provide the comfort letter that would have fulfilled one of the conditions precedent to completion of the SSA. Instead, on 5 July 2016, Greenergy and Gaia entered into an agreement (**the settlement agreement**) on terms set out in a letter of 5 July 2016.

130. In summary, the parties to the settlement agreement agreed to continue with the Greenergy contract on slightly revised terms and subject to certain one off payments on both sides. The terms were conditional on the appointment of Engie as O&M contractor for at least 12 months. The cost of installing the control valve system would be shared. Equitix (though not a party) confirmed to Greenergy that it was willing to instal additional kerosene boilers at the site.

131. Mr Cashin reported to Equitix's fund investment committee, which was to meet on 14 July 2016. He presented a detailed "gate 4" paper with amendments to a previous version. These reflected (as he explained in a covering email) the "key change in the economics of the deal… we are now assuming much more conservative steam supply assumptions … due to the lower degree of certainty around the plants ability to supply all of Greenergy's demand …".

132. Mr Cashin stated that the choice was either to complete on existing terms, or to delay for some months to require further demonstration of the plant's capabilities, or to reduce the acquisition price, which the vendors would resist, or to make more of the payment contingent on future performance, which would also be (to a lesser extent) resisted.

133. The committee approved the acquisition at its meeting on 14 July 2016, in the knowledge that there was an outstanding requirement to ensure that (as stated in the manager's report to the meeting) the parties were happy that the plant could deliver Greenergy's steam demand up to the amount of 12 tonnes of steam per hour. Equitix were aware that the plant's ability to meet that requirement had not yet been demonstrated.

134. Engie carried out mobilisation work towards its eventual formal appointment as O&M contractor, through July 2016. The plant continued to function, but with serious problems recorded in log book entries and emails. Emissions were "through the roof" on 8 July. High doses of lime and urea were being administered. The temperature frequently dropped and the boilers were tripping.

135. On 22 July 2016, Mr Dickinson reported that boiler 2 was under maintenance. The tubes were "heavily sooted with several completely blocked" and "the front plate had been chipped". On 23 July, the operator Mark reported that boiler 1 was "not happy"; kerosene was needed to keep it going. On 27 July, operators were "hoovering lime into B2 every half hour". By 29 July, boiler 2 was producing 5.5 tonnes of steam per hour.

136. On 31 July 2016, Equitix and the defendants agreed an extension until midnight on 5 August 2016 as the "long stop" date by which the final SSA had to be completed. This was to be the final extension of the deadline. Mr Dickinson, meanwhile, was preoccupied with addressing the high levels of TDS which a Mr Spencer Yates of Engie made a point of drawing to his attention on 1 August.

137. Mr Yates expressed concern in an email at this finding that "the boiler is running with TDS levels in excess of 14,000", apparently the maximum meter reading level. He pointed out the short term effect on production and the long term damage it would cause, in the form of "reduced tube life etc". He detected "an issue with the feedwater hardness" and said the way to reduce the TDS levels was "to take the boiler off line, drop the water out and start again."

138. Mr Dickinson passed on to Mr Brownlee Mr Yates' criticism that water testing quality was not being done often enough. Mr Dickinson commented that "[w]e should not be anywhere near these levels and … should be on to Greenergy for Demin [i.e. pure water] rather than taking raw water. We are fucking up the boiler, but more worrying is that the lads are not carrying out tests." Mr Brownlee wrote to the staff to emphasise that they should do so.

139. However, on the morning of 3 August 2016, a major incident occurred at the plant. The log entry at 0820 stated that "we are shutting down both blrs. When able. … Disaster area – conveyors, motor outside found sheared off +laying on roof?? From yesterday? Now we have tube leak/s blr 2. …". When Mr Brownlee arrived, he discovered at around 0900 that boiler 2 was emitting steam and water from all its fans and joints.

140. He also learned that the "pits" had flooded leading to submerging of the ash conveyor. The cause of the water leak could not be ascertained until the boiler had cooled sufficiently to inspect it; the ash would need removing before it "sets solid". Mr Dickinson, other Gaia directors and Mr Dunnett of Rothschild were concerned at the impact this could have on completion of the acquisition deal. They had an email discussion about how to manage informing Equitix.

141. However Mr Cashin, as yet oblivious to the incident, was putting the finishing touches to Engie's appointment contract, which was signed that very day, 3 August 2016. Mr Dickinson wrote an email report intended for Greenergy, saying initial indications were that the water leak was "very likely a failed boiler tube", likely to take about a week to repair. He then abbreviated and toned down his report, at Mr Botterill's suggestion.

142. An email to go from Mr Dickinson to Mr Cashin was debated. Mr Dunnett thought it best that Mr Dickinson "just sends it as the standard evening update", no doubt in the hope of avoiding alarm. Due to the time it took to debate the information management process, Mr Cashin was not informed about the incident until 4 August 2016 at 1349, when an anodyne version of Mr Dickinson's report was forwarded by Mr Dunnett to Mr Cashin.

143. Mr Dunnett, in his forwarding email, attributed the delay to "Alex being out of action" rather than to the information management process. Mr Dickinson had added to his report the untruth that he had been unable to talk to Mr Brownlee until 4 August due to a hospital appointment. The truth was that he had communicated with Mr Brownlee on 3 August, before attending his hospital appointment. Mr Dunnett did not correct this untruth in his email to Mr Cashin.

144. In his report as forwarded to Mr Cashin, Mr Dickinson disingenuously described the water and steam leak from boiler 2 as one of two unrelated problems "both common in the normal course of operation". He explained that after opening boiler 2 it was confirmed that the cause was indeed "a tube-leak, right at the boiler plate" for which "[t]he repair is commonplace".

145. This incident did not derail the deal. The final terms were agreed in last minute negotiations in the evening of 4 August 2016 about the pricing structure. Mr Botterill confirmed by email that evening that the sellers "are willing to accept the proposal … to enhance the next two earn out payments by £37,500 on each payment, £75,000 in total, to be papered up in a side letter".

146. The result was the SSA in its final form, completed on 5 August 2016 and comprising the original SSA dating from 23 December 2015 with certain tracked changes representing the updated and amended terms. The side letter referred to was signed and dated 5 August 2016. I will return to the terms agreed in these documents when considering the issues, later in this judgment.

147. In accordance with the changed terms of the final SSA, Equitix placed £2 million in an escrow account, pending the outcome of performance testing. I was told at the trial that this sum remains in escrow and had not, at the time of the trial, either been paid out back to Equitix or onwards to the defendants. Equitix produced a letter of 5 August 2016 waiving the condition precedent that Greenergy should provide a comfort letter.

148. The sellers, for their part, provided a brief updated disclosure letter of the same date against the warranties in the SSA, referring to, among other things, the "Disclosed Documents" placed in a data room; the dispute with Greenergy which had "now been resolved"; the proposal to instal control valves; and a way to improve performance of the condensate meter by changing its orientation from horizontal to vertical.

149. On 7 August 2016, with Equitix now in control of Gaia, Mr Brownlee produced his "[i]nitial report of boiler failure, running to three pages. The motor and hydraulic gearbox of the ash conveyor (serving both boilers) had broken off and no ash was therefore being removed from the boilers. After dealing with safety issues and shutting down both boilers, Mr Brownlee had reported the matter to Mr Dickinson and to Gaia's insurers.

150. The next day, Mr Brownlee's report continued, a visual inspection of the rear tube of boiler 2 identified the cause of the steam and water leak: "a boiler tube had collapsed from the weld around the tube to tubeplate". Three other adjacent tubes were also "mis-shaped". The damaged tubes were still too hot to touch but were photographed from a safe distance.

151. Mr Brownlee thought the boiler tube had been leaking for some time after last being cleaned and had leaked water into the ash pit, causing ash, with urea and lime "to harden into a concrete like substance and jam the chain of the conveyor causing the conveyor to fail". He could not yet say what the cause of the leak and the tube failure was; that would have to await further analysis.

152. Mr Brownlee supplemented his report up to about 10 August 2016. Four tonnes of wet ash were removed from the boiler chutes in the conveyor. The paddles were "stuck at the bottom", jammed by the "concrete like substance" which was "set solid". The tube failure could safely be attributed to "heat transfer by the tubes being covered in scale build up". The affected tubes were blocked along about 750mm of their length by the "solidified silt mixture".

153. By 23 August 2016, both boilers were still off line. The broken ash conveyor had been repaired but Gaia's insurers were insisting that a chemical clean of the tubes of both boilers was necessary; boiler 1 was showing deformities in its tubes similar to those that had caused the tube failure in boiler 2. The clean could not start until 31 August 2016.

154. A few days later, Mr Brownlee detected cracking in the refractories of both boilers. A specialist company called Sheffield Refractories Limited (**SRL**) provided a quote for remedial works at the end of August 2016, which would cost around £10,000 plus VAT. They provided further detail of the scope of works after an on site inspection on 16 September.

155. Engie took part in testing the feedwater supplied by Greenergy (to the displeasure of Mr Howlett, of Arup, who saw a potential conflict of interest). Engie carried out a "plant study" over the following month. The two boilers had not at this stage produced any steam under the Greenergy contract since the takeover of Gaia by Equitix.

156. Mr James Taylor, of Engie, reported to Mr Cashin in an email of 13 October 2016, following a site visit that day together with Gaia's insurers, Zurich. The latter wanted boiler tube plate material to be replaced before final remedial work could be done in advance of firing up the boilers again.

157. Data from the CEMS for July 2016 was examined and confirmed substantial exceedances in respect of HCl, CO, SO2, NOX and ammonia. It was not clear whether these exceedances had been reported to the EA, which had not taken any regulatory action against Gaia.

158. In October 2016, Engie updated its "plant study" findings. These included a suggestion that the blowdown facility for each boiler should be moved from the front to the (hot) rear end of each boiler, to improve the effectiveness of the blow down process. The boilers were fired up again at the end of October 2016, for testing, but were not yet producing steam on a commercial basis under the Greenergy contract.

159. In support of its insurance claim arising from failure of the two boilers on 3 August 2016, Gaia commissioned a report from a consultant, Mr Michael Branch. His first draft was ready in November 2016. He opined that the cause was a combination of issues regarding poor water quality, the specification (i.e. quality) of the boilers, the manner of their operation and the operating and maintenance procedures.

160. Engie received a report dated 14 December 2016 from a company called Laborelec, which had been on site performing due diligence in early August 2016. Laborelec blamed ammonia contamination observed in a sample taken from the heat exchanger during cleaning in July 2016. The contamination was attributed to overdosing of urea: the ammonia reacts with other chemicals to cause sticky salts that collect fly ashes and can lead to plugging and corrosion of downstream equipment, poor heat transfer and boiler tube damage.

161. Mr Branch produced a further version of his report on 16 December 2016. The insurance claim proceeded and the boilers produced some steam again. Mr Cashin reported to Equitix's fund investment committee in February 2017. Documents prepared for the insurance claim in March 2017 suggested that "the boiler water quality has been on average satisfactory", contrary to other evidence, already mentioned, including the complaint from Mr Yates of Engie.

162. Mr Paul Warrington of SRL visited the site on 17 and 29 March 2017 to inspect and report on the condition of the boiler refractories. In a report with photographs produced on about 1 April 2017, he reported poor construction, deterioration and makeshift maintenance and repairs in the case of both refractories. However, he appears for some unexplained reason to have reused certain photographs, attributed first to boiler 1 and then to boiler 2.

163. With the boilers running again in May 2017 under Engie's stewardship, there were only infrequent and minor exceedances of emissions limits. Mr Branch produced a further version of his report on 14 June 2017, updated, as he stated, "after review with Equitix and comment". Mr Cashin proposed amendments intended to persuade Gaia's insurers that its insurance claim was good, by deleting references to contaminated feedwater supplied by Greenergy.

164. Mr Branch made some (though not all) the amendments requested and produced the fifth and final version of his report on 4 July 2017. The effect of Mr Cashin's comments was to downplay the role of poor quality feedwater and place the emphasis on the quality of the boiler tubes and the way in which the boilers had been operated.

165. Engie engaged SRL to do remedial works on the refractories. Dr Archer expressed concern in an email of 14 July 2017 that there was a "lack of design detail" in SRL's proposed specification. He sought assurances from Mr Branch and Engie that the works proposed by SRL were appropriate. Its plan was "[t]o [w]reck the existing refractory lining, supply and install refractory materials as per scope". This amounted to new internal refractory linings for each boiler, departing from Mr Dickinson's "Trigger's broom" approach to repairs.

166. In August 2017, Mr Brownlee reported uncombusted material at the end of the grate from boiler 2, leading to shutting down both boilers. He reported a breach in the refractory lining of boiler 2, causing a concrete block to fall and lie on the moving grate. This concentrated minds on SRL's proposed works. Mr Cashin reported the outage to Equitix's fund investment committee in September, estimating the cost at £250,000 to £350,000, with "a month of downtime".

167. Next, in early October 2017, Gaia's insurers agreed that (in the words of their broker) "while the boiler water issue may be valid … the damage to the conveyors and any

resulting proportion of the BI [business interruption] that can be attributed to the repair works associated with the damage to the conveyors is recoverable".

168. The insurer's agent commented that the tube failure in boiler 2 was "a gradually developing defect or gradual deterioration with the build up of sludge/scale". As such it was a "gradually developing cause", excluded from cover. The same analysis applied in the case of boiler 1, which had not broken down. However, "the resultant damage to the ash conveyor system, motors and mountings will fall under the policy cover as well any associated business interruption".

169. Thereafter, further negotiations between Gaia and its insurers proceeded in order to establish the quantum of the amount recoverable and to agree on the amount of an interim payment, which was eventually made in the sum of £237,000 (as further mentioned below) out of a total payment of £725,000, less the policy excess of £20,000.

170. I will have to consider later in this judgment whether that claim was an "Applicable Insurance Claim" within the meaning of that term in the deferred consideration provisions within the SSA. The definition, in material part, is found in Schedule 8 to the SSA, to which I will return.

171. In October 2017, the general manager's report from Engie to Gaia's board recorded that relationships "across the project" were becoming "frustrated" due to "significant periods of boiler outage, concerns from Greenergy regarding long term reliability and health and safety standards and ENGIE's performance levels". The "refractory remedials" had, furthermore, taken longer than anticipated to complete.

172. On specific O&M matters, Engie's ongoing plant study was continuing and priority items were being explored. Some costed items were set out with a view to improving performance; sums totalling around £200,000 were mentioned in the general manager's report. The work was ongoing but did not succeed in repairing relations with Greenergy, which served notice of termination of the Greenergy contract by a letter dated 22 November 2017.

173. The termination letter cited the same litany of complaints that had been rehearsed over several years: unreliable supply of steam, the boilers not working properly, assurances of supply given but not kept and failure to rectify Gaia's deficient performance. The termination letter asserted that Gaia was in "material breach" of the Greenergy contract and "all applicable cure periods have been exhausted". Gaia supplied no further steam to Greenergy thereafter.

174. The next day, 23 November 2017, Gaia's insurers confirmed they would make a payment of £237,000, as an interim payment in respect of the claim arising from the boiler tube failure of 3 August 2016, of which £200,000 was for business interruption and £37,000 for property damage.

175. The present claim for breach of the warranties in the SSA was brought on 30 October 2018. The particulars of claim asserted that the plant and equipment was not in good repair and was not used in accordance with the environmental permit. The boilers had not been properly commissioned and were unable to "ramp up and down" to meet fluctuating demand. The feedwater was impure; there was overdosing with lime and

urea; and the refractory walls had not been installed properly. The boilers had not been properly serviced and maintained.

176. The particulars asserted that remedial works beyond those disclosed in the disclosure letters were required and that the state of the plant and its operation was such that Greenergy could argue that Gaia was in material breach of the Greenergy contract, entitling Greenergy to terminate that contract, as it had done. Inaccurate statements had been made in the Fichtner report and in the financial model, neither of which had been prepared with reasonable care.

177. On 30 November 2018, Greenergy's solicitors, Kennedys Law LLP, wrote a "without prejudice save as to costs" letter to Addleshaw Goddard LLP, for Gaia, indicating that Greenergy might not require removal of the boilers from the site and that Greenergy might be amenable to their use for "alternative service". But nothing came of this suggestion. The boilers remained on site, they were not operated or maintained and their condition has since deteriorated.

178. The defendants served a defence and counterclaim in its original form on 21 December 2018, denying the breaches of warranty, asserting that Equitix was obliged to and had failed to mitigate its loss, in particular by not claiming GMO (or the equivalent as damages) against Greenergy; and counterclaiming for unpaid deferred consideration. A reply and defence to counterclaim was served on or about 31 January 2019 (later amended on 11 November 2020).

179. On 4 February 2019, Mr Taylor of Engie reported to Mr Cashin and Dr Archer that the insurance proceeds arising from the boiler tube failure on 3 August 2016 had been paid. The final amount paid was £725,000, less the policy excess of £20,000, of which £237,000 had earlier been paid by way of the interim payment, already mentioned.

180. On 21 February 2019, Mr Taylor sent to Mr Cashin and Dr Archer a list of Gaia's unpaid creditors, showing debts amounting to just over £3.278 million, of which £2.162 million was owed to Engie and a further £855,000 to the supplier of recycled wood.

181. Experts were instructed in the fields of engineering (Mr Ian Crummack for Equitix and Mr Nicholas Ash for the defendants); quantity surveying (Mr Jon Sime for Equitix, Mr Richard Walmsley and Mr Richard Mascall for the defendants); forensic accounting (Ms Philippa Hill for Equitix and Mr Gervase MacGregor for the defendants).

182. The work of the experts was detailed and complicated. It continued right up to the trial and even included further written material during the trial. I shall return to their evidence during my assessment of the issues I have to decide, to which I now turn.

Issue 1: Whether any Warranties Were False

183. The first issue is whether any of the warranties given in the SSA were false. The warranties are in Schedule 4 to the SSA. The sellers "jointly and severally warrant … in the terms of the Warranties … as at the date of this Agreement [5 August 2016] subject to the Disclosed Matters" (clause 7.2). Each seller further warranted in the same terms "as if each Warranty … were repeated at the Completion Date [5 August 2016] by reference to the facts and circumstances then existing…"; again "subject to the Disclosed Matters" (clause 7.3).

184. The impact of the "Disclosed Matters" and of any actual knowledge attributed to Equitix are to be considered as the second issue. This first issue is only whether any of the warranties were false. The parties' contentions have been ordered in various ways in pleadings, written openings and closings. Both sides advocated findings of fact on specific issues, rather than starting from the wording of each warranty. I will follow the order in Equitix's written closing.

The environmental permit

185. The "Plant and Equipment" (defined as "all plant, equipment and machinery used … in connection with the Business [of Gaia] including the two … boilers …") had to be "used within the terms of the Regulatory Licences …" (warranty 3.1.1 in Part IV). The term "Regulatory Licences" included the environmental permit issued to Gaia by the EA (see the definition at paragraph 1.2, in Part XII).

186. Gaia had to hold all necessary "Authorities", i.e. "all licences, consents, approvals, permissions, permits …. and other authorisations .. necessary for the proper and efficient operation of the Business …" as currently carried on (warranty 2.1 in Part VI). The "Authorities" included the environmental permit; they were required to be "in full force and effect" and to "have been complied with in all material respects" (warranty 2.2 in Part VI).

187. Equitix says the permit was breached by burning waste wood below 850 degrees C; exceeding maximum emissions limits; operating the boilers with the bag filters turned off or bypassed; operating the plant without the CEMS being operational; and failing to notify the EA of the breaches. Equitix relies mainly on numerous instances from the log book entries, not just those I have mentioned above; and on the absence of any evidence of notification to the EA.

188. The defendants, realistically, do not contest that there were exceedances from 1 July to 5 August 2016, but say it is "by no means clear" that the environment permit was thereby breached. The EA appeared sanguine and took no action; the exceedances were "indicative" rather than "accurate", on Mr Dickinson's evidence; the boilers were still in a trial phase from April to June 2016; remedial works to secure compliance were not carried out after completion; and Engie managed to run the plant from May 2017 without further breaches.

189. Further, the defendants submitted that what was required was a second CEMS so that emissions from each boiler could be measured separately. Equitix disputed that proposition: CEMS do not control emissions, they merely measure them. Exceedances occurred when only one boiler was running. At best, a second CEMS could help inform how much dosing with reagents (lime and urea) was indicated, but does not assist where reagents cannot be used.

190. I do not accept the defendants' proposition that it is "by no means clear" the permit's terms were breached. I am satisfied they were breached. The exceedances are proved; in July 2016, they are also admitted. The spreadsheets show they were substantial, far from *de minimis*. The terms of the permit do not make the issue of breach dependant on whether the EA takes action. It can hardly take action unless it is made aware of any breaches; hence the reporting obligation, also breached. Nor is there any period of grace during a trial run.

191. The email exchanges between Mr Dickinson, Mr Dunnett and Mr Scales in November 2015 demonstrate that all three were aware that Gaia was then in significant breach of its emissions limits and sought to convince Mr Cashin and Dr Archer that the breaches were minor and insignificant. By July 2016, the breaches of emissions limits were serious.

192. The absence of a second CEMS does not affect whether the relevant warranties were false or not. It may or may not help explain why breaches of the permit went undetected or continued longer than they otherwise would have done, or whether they could or should have been remedied sooner or managed better. They are not relevant to the truth or falsity of the warranties Equitix invokes.

193. I conclude without difficulty that warranty 3.1.1 in Part IV and warranty 2.2 in Part VI were false in relation to the environmental permit. Warranty 2.1 in Part VI was not false; the permit Gaia held was not inappropriate for "the proper and efficient operation of the Business …". I am not persuaded that the terms of the permit were unsuitable for Gaia's business. The EA could not be expected to agree to more indulgent terms. The terms were acceptable; compliance was not.

Capability of plant and equipment

194. The defendants warranted that the plant and equipment (as defined) was "capable of being used for the purpose for which it is currently being used by [Gaia]" (warranty 3.1.3 in Part IV); and (by warranty 3.1.2 in Part III) that the financial model "contains projections and forecasts which were reasonable as at the Financial Model Date [25 April 2015]" and that:

> "so far as the Sellers are aware there are not material changes required to be made thereto as at the date of this Agreement [5 August 2016] the absence of which would cause such projections and forecasts in the Financial Model to be materially inaccurate or misleading".

195. The defendants also warranted that in the Fichtner report "all factual statements made … are true and accurate and all statements of opinion contained therein are reasonable and so far as they are attributed to the Sellers are honestly held by them" (warranty 5.2 in Part III).

196. Equitix submits that the purpose for which the plant and equipment was being used by Gaia was to perform the Greenergy contract. That contract provided for the AHD of 76,000 MWh per year. It is common ground that the boilers did not do so, nor did they meet Greenergy's actual, fluctuating demand. Therefore, Equitix argues, the plant and equipment was not capable of performing the Greenergy contract and therefore not capable of fulfilling its purpose, to do so.

197. At least that annual amount of steam - equivalent to 12.67 tonnes of steam per hour - was stated to be achievable, by implication, in the financial model, Equitix submitted. And, that figure was adopted in the Fichtner report, which attributed to the defendants the opinion that it was achievable, an opinion Equitix said was not reasonable because serial stoppages and other issues (set out at length in their written closing submissions) kept production well down.

198. Equitix submitted that production did not come near 76,000 MWh per year. In the months leading to completion, the output from the plant was only achieved by "cheating", driving the boilers too hard with a "steam at all costs" mentality, overdosing them with reagents and causing damage. After completion, the boilers proved capable of only 1,617 MWh per month, on average, from 5 August 2016 to 22 November 2017 when Greenergy terminated.

199. Equitix submitted that the financial model and Fichtner report overstated the output the boilers could achieve; the defendants breached the warranty that the projections and forecasts in the financial model were reasonable as at 25 April 2015 and not rendered misleading by absence of adjustment as at 5 August 2016; and that the opinion Fichtner attributed to them was reasonable. The warranted capability to meet Gaia's business purpose was also breached.

200. The defendants attribute to Gaia a more limited purpose: to produce steam for Greenergy "on terms", which the plant and equipment was capable of doing. The Greenergy contract, the defendants contended, did not require Gaia to guarantee that it could meet the AHD or any particular amount of steam. Alternatively, the defendants argue, Gaia's purpose as at the date of the SSA was to supply steam at the then current rate, averaging 5.5 tonnes per hour.

201. The defendants submitted that the financial model gave no express warranty that the plant could produce 76,000 MWh each year, as Mr Cashin accepted in oral evidence. The financial model merely ran cash flow variables. The figure of 76,000 MWh, though it was the AHD figure, was a function of the base case scenario in the financial model, not an opinion as to performance capability, still less a warranty in its own right.

202. Furthermore, the defendants submitted, Equitix could not prove that the plant was incapable of producing 76,000 MWh per year. Mr Crummack, their engineering expert, did not seriously support that proposition which has never been tested because necessary improvement works – notably installing control valves - were not done.

203. Gaia therefore had no opportunity after completion to meet the AHD, the defendants submitted; while Mr Ash, their expert engineer, believed the plant was capable of meeting it once the difficulties presented by Greenergy's fluctuating demand were addressed, in particular by installing a control valve system to reduce the dominance of InterTerminals.

204. I accept, first, that Mr Crummack's evidence does not lead to the conclusion that the plant was intrinsically and necessarily incapable of ever producing 76,000 MWh per year. Implicit in the disagreement between him and Mr Ash was the question what condition the boilers should be assumed to be in for the purpose of estimating their maximum output and what remedial work might have been done to achieve optimum performance.

205. To answer the question in principle whether the plant was capable of achieving 76,000 MWh, I think it should be assumed that the plant and equipment would be in good condition and properly run within its assumed parameters. On that basis, the plant may – I do not need to decide for present purposes – have been intrinsically capable of a best performance of or close to 76,000 MWh per year.

206. However, in my judgment, the first warranty relied upon - that the plant and equipment was capable of being used for the purpose for which it is currently being used by Gaia – was false. First, Gaia's business purpose must be taken to be, if not to produce the amount of the AHD every week, at least to produce a respectable amount of steam not falling wildly short of satisfying Greenergy's demand.

207. Otherwise the Greenergy contract would not fulfil its commercial function of producing the steam Greenergy needed to produce biofuel for its customers. I do not accept that because no minimum production level was set in the Greenergy contract, Gaia's purpose was just to produce some steam, however small the amount.

208. As at 5 August 2016, the condition of the boilers was not up to standard; indeed, they were out of commission. For months before that, they had not been working properly. The log book entries recorded the numerous stoppages and low performance standards in the months leading up to completion of the SSA. I conclude that they were not capable of fulfilling Gaia's purpose.

209. The second warranty relied upon under this heading was that the financial model contained projections and forecasts that were reasonable as at 25 April 2015 and that the defendants were not aware of material changes to the model required as at 5 August 2016, the absence of which would cause the projections and forecasts in the financial model to be materially inaccurate or misleading.

210. I agree with the defendants that the financial model did not warrant that the plant and equipment could produce 76,000 MWh of energy each year. But I do not agree that this figure (and the substantially higher figures in the "upside" scenarios) were merely the product of running cash flow scenarios. On the contrary, it was the other way round. The 76,000 MWh in the base case scenario was a projection or forecast; it was used to produce a cash flow estimate.

211. By 5 August 2016, the defendants were well aware that the plant and equipment was not capable of producing anything like that amount of energy, and its equivalent in tonnes of steam, 12.67 per hour. It follows that by that date, they were aware that material changes to the model were required to prevent the projections and forecasts in it from being materially inaccurate or misleading.

212. Accordingly, the second part of the warranty was false. I will consider within the rubric of the second issue (below) the impact of that conclusion, having regard to what was disclosed and what knowledge Mr Cashin and Dr Archer had, as at 5 August 2016, about the reliability of the projections in the financial model.

213. The third warranty relied on here was that all statements of opinion contained in the Fichtner report were reasonable and in so far as attributed to the defendants, honestly held by them. In my judgment, this warranty was not false and the defendants were not in breach of it. On a fair reading of the Fichtner report, the premise that Fichtner attributed to the defendants the opinion that the plant was capable of producing 76,000 MWh each year is not made out.

214. While Gaia's sponsors had, historically, cited that figure in the financial model, Fichtner did not say in terms in their report that the defendants still believed in that figure. They would not be so impolite as to say in the report that their client Gaia, or

the defendants, held an unsubstantiated opinion that the plant was capable of a significantly higher output of steam than they, Fichtner, had been able to demonstrate objectively in their observations and tests.

215. What Fichtner stated in its report was that it had "not seen evidence that the plant has ever exported 15 tonnes/hour of steam to Greenergy"; they had seen "some evidence that the plant has periodically met the heat demand by Greenergy up to 10 tonnes/hour" but "the long term ability of the plant to meet the full demand [has] not been demonstrated" (paras 2.1(7) and (8)).

216. That was the judgment of Fichtner. It was a realistic assessment of the plant's demonstrated capability, founded on what they had observed on site. The rest of the report did not squarely attribute to the defendants a different and more optimistic judgment about the plant's capability. I therefore do not accept that the third warranty relied on was false.

217. For completeness, I mention here that a separate complaint was made in Equitix's opening, as an alleged breach of warranty 3.1.5 in Part IV, that the defendants "were aware that the RHI metering including the RHI condensate meter was not compliant so as to prevent Gaia from claiming RHI payments".

218. That complaint was not addressed in Equitix's closing submissions. I do not think I need to consider it further. Possibly, it was not reiterated in closing because the updated disclosure letter stated that "the performance of the condensate meter could be improved by changing its orientation from horizontal to vertical therefore it was moved to a different part of the condensate pipework".

219. A separate complaint to the effect that the boilers had not been properly commissioned and that the commissioning certificates were worthless, was pursued in closing as part of Equitix's case that the plant and equipment were not capable of operating properly, in breach of warranty 3.1.1 or 3.1.3 in Part IV. I do not think that complaint adds anything to those I have already considered under this heading.

Boiler water quality

220. Equitix's case, as I understand it, rests mainly on warranty 3.1.1 in Part IV: the plant and equipment had to be "in good repair and condition having regard to usual industry standards ….". Poor servicing and maintenance are also relied on (see 3.1.2), but I will focus on 3.1.1. The essence of the case is that the plant and equipment were in poor condition, inter alia, due to use of substandard feedwater causing a build up of TDS, in turn leading to serious damage.

221. The submissions of fact are pretty straightforward. The raw water was impure. The boilers were knowingly operated, from January to May 2016 at least, with TDS levels much higher than the manufacturer's standard (and the 1997 British Standard) of 3,500 mg per litre of water. Mr Ash in his fourth report (paragraph 2.3) after seeing the relevant water quality test records, and in cross-examination, accepted this.

222. Mr Dickinson's email referring to "fucking up the boiler" acknowledged the damage being done. Blowdowns as frequently as once an hour did not help because the replacement water was just as impure. The damage was not just to individual tubes,

but to other pressure parts. Scaling of the boiler plates had led to metallurgical changes from overheating.

223. The defendants' main argument in response was that the real culprit was not the high levels of TDS *per se*, but a design defect which placed the blowdown hole at the front, not the rear of the boilers; while it was at the rear that sludge built up due to impure feedwater. Some scale build up occurs in normal operation; attributing an abnormal build up to excessive TDS was not made out.

224. Further, Mr Crummack's view that the plant was worthless due to excessive damage to pressure parts, over and above the damage following the tube failure in boiler 2, was "entirely speculative", as the defendants put it. Mr Crummack had expressed that view in his third report but, the defendants argued, had not inspected the pressure parts he condemned as incurably damaged by scaling.

225. In my judgment, warranty 3.1.1 is shown to have been false in that poor quality feedwater was used. The issue here is not whether Mr Crummack exaggerated the damage to pressure parts from scaling; that is for later, when I consider the third issue. The issue is whether the plant and equipment were in good repair and condition having regard to usual industry standards.

226. Clearly, they were not in good condition and repair, in that feedwater was persistently used with levels of TDS that dwarfed the industry standard of 3,500 mg per litre of water (though Mr Crummack preferred an upper limit set 30 per cent lower than that). I think it is unrealistic to attribute the damage to the position of the blowdown hole. Mr Dickinson did not do so at the time. He did not say it was a design fault that was "fucking up the boiler".

Overdosing of urea and lime

227. Again, the main focus of Equitix's case is on warranty 3.1.1 in Part IV, i.e. that the plant and equipment had to be in good repair and condition having regard to usual industry standards; though it also invokes 3.1.2 (poor servicing and maintenance) and, in its pleaded case, 3.1.4 (plant and equipment not complete and required remedial works beyond those in the Disclosure Letter). I will consider lime and urea dosing mainly by reference to warranty 3.1.1.

228. Equitix submits that excessive lime and urea dosing (used to control emissions of noxious substances) led to "carry over of unreacted reagents to downstream equipment". They point out, first, that Mr Dickinson admitted in his first witness statement that "over-dosing of lime and urea was inevitable…" because the presence of a single CEMS for both boilers meant it was not known to which boiler any excessive emissions should be attributed.

229. This, Equitix suggested, explained the "min depression" (or "low vac") entries in the logbooks, leading to blocking and turning off or bypassing of bag filters. Further, Mr Crummack (in his second report) attributed the complete failure of the ash conveyor of boiler 2 on 3 August 2016 to escape of water due to the tube failure reacting with excess lime and urea in the ash conveyor forming a solid mass. Mr Brownlee's contemporary account included a similar explanation.

230. Mr Ash, in cross-examination, attributed the ash conveyor failure more to lime than urea. Laborelec saw "ammonia contamination" in a sample taken during cleaning in July 2016 and attributed the contamination to urea overdosing and the ammonia reacting with other chemicals to cause "sticky salts that collect fly ashes and can lead to plugging and corrosion of downstream equipment, poor heat transfer and boiler tube damage".

231. The defendants' response was to accept, in line with Mr Dickinson's witness statement, that the boilers were "dosed with more urea to control nitrous gas emissions than would have been necessary had each Boiler had its own CEMS". It was the absence of a second CEMS, they argued, that was pivotal; the overdosing did not mean any warranty was false.

232. The defendants pointed out that the boiler tubes were cleaned of carried over reagents weeks before the tube failure, though "some carry-over is inevitable". There was no evidence of long term corrosion damage through overdosing; again, Mr Crummack had not carried out an inspection of the parts. The bag filters were undamaged in the tube failure and, as Mr Brownlee noted, could be washed clean afterwards.

233. I accept Equitix's contention that the plant and equipment were not in good repair and condition having regard to usual industry standards, by reason of excessive lime and urea dosing. No one could or did suggest it was in line with the usual industry standards to overdose in the manner that occurred, in a vain attempt to control noxious emissions and keep producing steam.

234. The absence of a second CEMS does not make warranty 3.1.1 true in this regard. It does not excuse the overdosing any more than it excused the breaches of the environmental permit through excessive emissions. You cannot fairly blame the crudeness of measuring equipment for bad practice, if the practice leads to the plant and equipment being in poor repair and condition.

235. In my judgment, that did happen here, on the weight of the evidence. I am satisfied that some of the serious damage to the boilers inflicted in spring and summer 2016 was caused by excessive dosing of the boilers with lime and urea. Neither Mr Dickinson nor Mr Ash denied that it would be likely to do so. The latter accepted that products of urea are corrosive to steel.

236. Mr Dickinson accepted that unburnt urea was a cause of "min depression" in the boiler tubes. A log book entry for 22 May 2016 supports the proposition that unburnt urea was treated as a cause of blocked bag filters which were then turned off. The strong language used in the log book entries (e.g. "hoovering lime into B2 every half hour" (27 July 2016)) is as striking as the excessive emissions the dosing sought unsuccessfully to address.

237. I conclude that, at least, warranty 3.1.1 was false by reason of excessive dosing of the boilers with lime and urea. I also think the overdosing comes within the scope of poor maintenance for the purpose of warranty 3.1.2, also thereby rendered false to that extent; though I doubt that it falls within warranty 3.1.4 (incomplete plant and equipment requiring remedial works beyond those in the Disclosure Letter).

Boiler failure on 3 August 2016

238. Equitix submits, centrally to its case, that warranty 3.1.1 in Part IV (that the plant and equipment had to be in good repair and condition having regard to usual industry standards) and warranty 3.1.2 (proper servicing and maintenance) were false in that the boiler failure incident occurred on 3 August 2016, causing damage to the boilers and other parts of the plant and equipment.

239. Equitix further submits that the same warranties were false in that the ash conveyor serving both boilers became clogged up with a concrete like substance; and that the bag filters were damaged by being used while blocked (through excessive dosing with reagents, as discussed above) and by being exposed to steam leaks wetting and degrading them, in particular during the boiler failure incident on 3 August 2016.

240. Equitix set out its case in detail in its written closing submissions and relies in particular on Mr Brownlee's near contemporaneous accounts of the incident. It submits that the primary cause of the failure was high levels of TDS causing heavy scaling and accumulation of solid material, probably contributed to also by excessive urea dosing.

241. The failure of the boiler 2 tube then, submitted Equitix, caused steam and water under high pressure to leak into the ash pit, full of unreacted lime and urea, flooding the pit with at least four tonnes of wet ash that set solid and jammed the paddles. The ash rake on boiler 1 became jammed. Associated equipment such as switches and connections had to be dried, inspected and in some cases replaced, along with other damage.

242. Equitix also relied on the economical reporting of the incident by the defendants and the provision of misleading information, but that is relevant (other than as to credibility of the defendants' factual evidence) not to whether the warranties in question were false but to what Equitix knew or did not know, to be considered below.

243. The defendants devoted five paragraphs of their written closing to this issue. With commendable realism, they accepted that "the Boilers were not in good condition due to the Boiler 2 tube failure" and that, to that extent, warranty 3.1.1 was false. They accept that they did not inform Equitix of all relevant facts within their knowledge as at 5 August 2016.

244. However, they do not accept that they were aware as at 5 August 2016 that the back tube plate of boiler 2 was bent out of shape and split; Mr Brownlee did not record that in his contemporaneous accounts and would have done if he had known of it. Therefore, the defendants submitted, they did not know until after completion that the damage was more serious than they thought at the time. The usual tell-tale signs of that (e.g. foaming and loss of efficiency) were absent.

245. I can conclude without difficulty, since it is not disputed, that warranty 3.1.1 was false to the extent, at least, accepted by the defendants. I can leave until later in this judgment the consequences of that. I therefore do not discuss further at this stage the quality of information provided by the defendants to Equitix before and up to 5 August 2016.

246. I also find that the falsity of warranty 3.1.2 (poor service and maintenance) is further evidenced by the occurrence of the boiler failure of 3 August 2016. It is sufficiently clear that poor feedwater and high levels of TDS caused the scaling which made at least a major contribution to the failure of the boiler 2 tube, as already mentioned.

Refractory

247. Equitix submits that the refractory walls of the boilers were of poor standard, not installed properly and required repair, rendering false warranties 3.1.1 (the boilers not being in good repair and condition) and 3.1.4 (the plant and equipment so far as the sellers were aware not requiring any remedial works beyond those listed in the Disclosure Letter).

248. It was contended by Equitix that the weight of the evidence supported its contention that the refractories had not been properly installed and were defective. While Mr Crummack and Mr Ash were not experts on refractories, SRL was and though its work was not beyond criticism its proposals for remediation works are good evidence of substandard quality and installation.

249. Equitix relied on an incident in February 2015 when the refractory of boiler 1 collapsed and had to be rebuilt following a build up of unburnt material at the end of the grate. Uniconfort carried out rebuilding work. Equitix also pointed to Mr Brownlee's evidence of witnessing cracking in September 2015, causing him unease at standing beneath the affected area; and on the falling of bricks from a refractory causing an unplanned shutdown of boiler 2 in June 2016.

250. In addition, Equitix submitted that the refractories were not properly maintained. Photographs were not taken at regular intervals as Uniconfort's manual advocated. Nor was there any "Trigger's Broom" approach to maintenance, regularly replacing parts of each refractory rather than treating it as having a finite life cycle. The evidence was of reacting to incidents as they occurred.

251. The defendants asserted that the criticisms of the condition and repair and maintenance of the refractories were not made out. It was never made clear, they said, what was wrong with them at the point of manufacture. Neither SRL's assessments and quotes nor a paper from Engie (by a Mr Julian Gray) made these criticisms clear; nor were they tested in evidence from SRL or Engie, despite SRL professing the necessary expertise.

252. The defendants criticised SRL's "wrecking and ramming" approach to rebuilding the refractories as itself the likely cause of damage. SRL had not, on the evidence, been paid for its work. Further, they submitted, damage caused by a collision with unburnt material in a grate did not prove the inadequacy of the construction or installation.

253. I have found this aspect of the breach of warranty claim more difficult to assess than the other aspects. The absence of evidence from SRL and Engie on the subject is notable and I accept that SRL's methods may have been questionable. In the end, I have concluded that Equitix has not proved the refractories were intrinsically substandard or wrongly installed but I do accept that they were not kept in good repair.

254. First, they were not regularly inspected and photographed as Uniconfort recommended in its manual. The absence of systematic inspection meant that incidents such as the incidents in 2015 and 2016 leading to Mr Brownlee's sense of unease were, characteristically, not addressed. Mr Dickinson's cavalier "Trigger's Broom" approach to repairs was not methodical and seems to have been a euphemism for superficial and temporary running repairs.

255. For those reasons, I accept that the refractories were not kept in good repair and that warranty 3.1.1 was in that respect false.

256. I accept also that following the boiler failure on 3 August 2016, remedial works were required to the boiler 2 refractory beyond any indicated in the Disclosure Letter. However, I do not think the defendants were aware of that until after completion on 5 August 2016; at that time, the boilers were still too hot to carry out a proper internal inspection.

257. The falsity of warranty 3.1.4 by reason of the condition of the refractories at the completion date is therefore not made out.

Greenergy contract and relationship

258. In its opening submissions, Equitix contended that in the light of the way the plant and equipment had been operated, "there were grounds for saying that Gaia was in breach of its obligations under the Greenergy Contract, amounting to possible grounds for terminating the Greenergy Contract"; and that in its letter of 19 February 2016 (mis-dated 2015), Greenergy had, at least, indicated an intention to terminate that contract if not actually sought to terminate it.

259. This was said to be a breach of warranty at "paragraph 3" of Part VI. That paragraph has three sub-paragraphs: warranty 3.1 in Part VI (so far as material) is that in relation to a "material contract" (which includes the Greenergy contract) "… there are no grounds for its … termination…"; warranty 3.2 is that "… no party has given notice to terminate it or disclaim it or indicated an intention to do so …"; and warranty 3.3 is that Gaia "is not in material breach...".

260. However, in written closing submissions, only warranty 3.2 in Part VI is mentioned. Equitix submits more narrowly that the mis-dated letter of 19 February 2016 (referring to a "culture of spin and denial") was not disclosed to Equitix and, while Equitix was aware on completion of the SSA that there was a dispute with Greenergy which had led to the steam export valve being closed, the defendants said in the Disclosure Letter that the dispute had been resolved.

261. The defendants in opening concentrated on warranties 3.1 and 3.3, not 3.2. In closing, they submitted again that there were no grounds for terminating the Greenergy contract. They effectively accepted - and Mr Botterill as good as accepted in cross-examination – that the letter of 19 February 2016 was not disclosed to Equitix prior to completion of the SSA. I am confident that if it had been, the defendants would have told me so at trial.

262. In the light of Equitix's narrowed down case, the salient facts are short. In mid-October 2015, Mr Fox and Mr Brocklesby had an email exchange in which the latter confirmed that "all … issues that we exchanged correspondence are now closed", with Gaia responding in like vein. In January 2016, there was a reasonably positive meeting with Greenergy, but it was and remained unwilling to sign the comfort letter referred to in the original SSA.

263. Then on 9 February 2016, there was a very negative meeting with Greenergy, attended by Mr Cashin and Dr Archer, at which harsh words were spoken and a defenestration

was even threatened by Mr Owens of Greenergy. Equitix was clearly aware from that meeting that Greenergy considered it may have grounds to terminate the Greenergy contract.

264. It was in that context that the (misdated) letter of 19 February 2016 went from Mr Owens to Mr Fox. After that, Greenergy eventually signed the settlement agreement with Gaia on the terms set out in the letter of 5 July 2016. Against that background, the defendants did not disclose Mr Owens' letter and, in the disclosure letter provided at the same time as completion of the SSA, the defendants reported that the dispute with Greenergy had "now been resolved".

265. Against that background, if it matters (which I shall consider as part of the second issue) warranty 3.2 was false in the sense that in the letter of 19 February 2016 (and at other times) Greenergy had "indicated an intention" to terminate the Greenergy contract; whereas warranty 3.2 was to the effect that it had not done so.

Issue 2: Disclosed Matters; Actual Knowledge

266. The first part of this second issue (**disclosed matters**) is whether, if any of the warranties were false, there is a defence to a claim for breach of warranty because the warranty was false only by reason of a "Disclosed Matter" within the meaning of the SSA.

267. The second part of this second issue (**actual knowledge**) is whether, if any of the warranties were false, is there a defence to a claim for breach of warranty because at the date of the SSA, Mr Cashin or Dr Archer had actual knowledge of the facts, matters, events or circumstances which constitutes the breach.

268. A "Disclosed Matter" is (defined in clause 1.1 of the SSA):

> "… any fact, matter, event or circumstance which is fairly disclosed in this Agreement or the Disclosure Letter (or which is deemed to be disclosed under the terms of the Disclosure Letter) with sufficient details to enable the Buyer to reasonably identify the nature of the matter disclosed and to make a reasonably informed assessment of the scope of the matter disclosed."

269. The "Disclosure Letter" is the updated letter of 5 August 2016 referred to above, making further written disclosures against the warranties. The giving of the warranties, repeated as at 5 August 2016, is "subject to the Disclosed Matters" (clause 7.2 and 7.3).

270. Where a warranty refers to "the knowledge, information, belief or awareness of the Sellers", that includes "actual knowledge or awareness" and "actual knowledge and awareness which they would have had if they had made reasonable enquiry of each other" (clause 7.7).

271. Any claim under the warranties is limited in accordance with Schedule 5 (clause 7.8). There is an exception in cases of fraud, fraudulent misrepresentation or dishonesty by the sellers, but it is not invoked here. By clause 7.9 Equitix:

> "… confirms to the Sellers that, apart from the Disclosed Matters neither it nor any other member of the Buyer Group … is actually aware of any fact, matter, event or circumstance which constitutes a breach of Warranty as at the date of this Agreement nor of any fact,

> matter, event or circumstance which gives rise to a claim by the Buyer [Equitix] or the Company [Gaia] against the directors or officers of such Group Company. For this purpose, the Buyer and the relevant members of the Buyer Group shall be deemed to have knowledge of anything of which any of Ben Cashin and Egan Archer are actually aware of [sic] at the date of this Agreement."

272. And there is an exclusion of sellers' liability at paragraph 5 of Schedule 5:

> "The Buyer shall not be entitled to bring a claim and the Sellers shall have no liability to the Buyer where the facts and circumstances giving rise to the claim are within the actual knowledge of the Buyer (which for this purpose means the actual knowledge of Ben Cashin and Egan Archer at the date of Completion [5 August 2016] having read the Fitchner [sic] Report."

273. Equitix emphasised the cases in which fair disclosure has been considered and the distinctions between, on the one hand, disclosure sufficient to enable an informed assessment to be made and, on the other, mere means of knowledge; and between providing actual information sufficient to identify the nature of the matter disclosed and merely identifying sources of information, requiring a party to go on a paper chase to find out what it needs to know.

274. Those citations were, I record, *Levison v Farin* [1978] 2 All ER 1149, per Peter Gibson J (as he then was) at 1157; *Daniel Reeds Ltd v EM ESS Chemists Ltd* [1995] CLC 1405, at 1412[1]; *New Hearts Ltd v Cosmopolitan Investments Ltd* [1997] 2 BCLC 249, per Lord Penrose at 259, cited with approval by Carnwath LJ (as he then was) in *Infiniteland Ltd v Artisan Contracting Ltd* [2005] EWCA Civ 758, at [86]; and by Simon J (as he then was) in *Curtis v Lockheed Martin UK Holdings Ltd* [2008] EWHC (Comm) 2691, at [70]; and *Kittcatt v MMS UK Holdings Ltd* [2017] EWHC 675 (Comm), per Males J (as he then was) at [25].

275. On actual knowledge, Equitix pointed to passages in the judgments of the majority (Pill LJ dissenting) in the *Infiniteland Ltd* case, differentiating it from imputed or constructive knowledge; per Chadwick LJ at [82]:

> "… the distinction between 'actual' and 'imputed' knowledge in this field is so well known…that, had the parties intended to include 'imputed knowledge' in the qualification by which they cut down the scope of the relevant saving provision, they would have said so...";

and per Carnwath LJ said at [87]-[88]:

> "87. …In simple terms, as I understand conventional legal usage, 'actual knowledge' connotes a person's own knowledge; as distinct from knowledge which the law attributes to him, either because he ought to have it ('constructive knowledge'), or because it is knowledge of his agent ('imputed knowledge'). The distinctions are well-established…
>
> 88. In my view, it is important in the interests of legal certainty that such established distinctions should be respected, both by those drafting contracts, and by the courts in their interpretation. In the context of a professionally drawn legal documents such as

[1] The judge referred to at paragraph 196 of Equitix's closing submissions should be Beldam LJ.

> this, the court should start from a strong presumption that such expressions are used in their ordinary legal meanings."

276. As to the facts, Equitix submitted that Mr Dickinson succeeded in preventing full inspection of Gaia's log books showing the full extent of the problems at the plant. He was able to limit the entries seen to the mainly anodyne pages he did disclose, said Equitix. The *modus operandi* of the defendants was to manage and control the supply of information, to withhold negative information and minimise the extent of the problems, in particular relating to the boiler failure on 3 August 2016 which did not destroy the deal.

277. The defendants agreed that for the purposes of the exclusion of sellers' liability for breach of warranty at paragraph 5 of Schedule 5, actual knowledge of Mr Cashin or Dr Archer was required and knowledge of an agent or constructive knowledge would not be sufficient to exclude the defendants' liability.

278. But clause 7.9 of the SSA was different, said the defendants: the buyer's confirmation (in the first sentence) of absence of actual awareness extended to awareness of agents. The reference to actual knowledge of Mr Cashin and Dr Archer, in the last sentence of clause 7.9, did not affect that interpretation; the last sentence was a deeming provision, not a limiting provision.

279. The defendants submitted, further, that the notable absence of Mr Howlett, Mr Iredale and other relevant personnel at Arup and Engie, should tell against Equitix by inference (by reference to the four factors identified by Brooke LJ in *Wiesniewski v. Central Manchester Health Authority* [1998] PIQR P324, P340); and lend support to the contention that they must have made Equitix (and Mr Cashin and Dr Archer in particular) aware of the full picture.

280. Arup, the defendants reasoned, conducted Equitix's technical due diligence and Mr Howlett in particular could find out whatever Equitix needed to know including gaining unrestricted access to Gaia's log books; while it was Equitix, not Gaia, that negotiated the O&M contract of 3 August 2016 with Engie; and it was Engie, not the defendants, that was Equitix's true counterpart in the negotiations to acquire Gaia.

281. In my judgment, the better view is that Equitix's interpretation of clause 7.9 is correct and the defendants' is not correct. It is true that the first sentence of 7.9 refers to the "Buyer Group" as well as the buying company, Equitix. But, as against that, the following factors tell strongly against the defendants' interpretation.

282. First, the words used in the opening sentence of clause 7.9 are "actually aware". Second, those words are repeated in the second sentence, near the end. It would be odd if the same phrase bore two different meanings within the same sub-clause. The second time the phrase appears, in the deeming provision, as the defendants call it, the actual awareness must be that of Mr Cashin or Dr Archer.

283. If, as I consider correct, the phrase "actually aware" bears the same meaning both times it appears, it is not just a deeming provision; it serves to delineate the class of persons whose actual awareness, in the first sentence also, counts as that of the "Buyer" or of "any other member of the Buyer Group".

284. That interpretation gives good sense to the concluding sentence of the provision, which otherwise would be unnecessary since actual awareness of Mr Cashin or Dr Archer would clearly qualify as knowledge of the "Buyer" on ordinary principles whereby knowledge of a company director is imputed to the company.

285. Equitix's interpretation also accords with the approach of the Court of Appeal in the *Infiniteland Ltd* case, differentiating actual knowledge from constructive or imputed knowledge. It also fits with clause 7.7 which provides expressly for constructive knowledge where the drafter intended that to be included.

286. And it chimes with the reference to Mr Cashin and Dr Archer's "actual knowledge" in the exclusion of liability clause at paragraph 5 of Schedule 5 which, the defendants accept, means what it says and excludes constructive knowledge or imputed knowledge of matters known only to agents.

287. There would be an anomalous asymmetry in the provisions if the buyer's confirmation of matters actually known about and constituting a breach of warranty, was broader than the seller's exclusion of liability for those same matters. I think if that had been intended, clear words having that meaning would have been used.

288. That does not mean that the actual knowledge of relevant matters held by Mr Iredale, Mr Howlett or other personnel from Arup and Engie, is irrelevant. It is relevant if it was passed on by those individuals before completion on 5 August 2016 either to Mr Cashin, or to Dr Archer, or to both, or to one by the other after receipt from a third party such as Mr Iredale or Mr Howlett.

289. The defendants are entitled to draw attention to the absence from the witness box at trial of those people or others from their organisations. But any adverse inference is, in my judgment, rendered negligible here by the onus of proving the requisite knowledge falling on the defendants; it is they who assert that Equitix had relevant knowledge and, consequently, for them to prove that. It is not for Equitix to prove the negative, that it lacked relevant knowledge.

290. Further, while Engie or Arup personnel would more naturally be called by Equitix, which (directly or through Gaia) negotiated with them or took the lead in engaging their services (albeit Engie's O&M contract was concluded two days before the SSA), it would not have been impossible for the defendants, bearing the onus of proof, to have called the relevant individuals. Mr Brownlee was called by Equitix though he had worked for Eco Link and subsequently Gaia when it was controlled by the defendants.

291. Against that background, I consider next the disclosed matters and actual knowledge elements of this second issue, in relation to each of the warranties I have found to have been false.

292. As regards the non-compliance with the *environmental permit*, I accept submission of Equitix that matters rendering the warranties false – the exceedances, their extent and the failure to report them to the EA – were not disclosed matters. They were not disclosed with sufficient details to enable Equitix to reasonably identify the nature of the matter disclosed and to make a reasonably informed assessment of the scope of the matter disclosed.

293. I reject the defendants' submission that the Fichtner report made clear the plant and equipment had not demonstrated compliance with permitted emissions limits. The Fichtner report was (as Mr Crummack noted) "heavily caveated" and was essentially agnostic on whether emissions limits could be complied with; it was a matter yet to be determined, according to the report.

294. I also accept the submission of Equitix that it (i.e. Mr Cashin and/or Dr Archer) did not have actual knowledge of the exceedances, their extent and the failure to report them to the EA. The defendants' problematic contrary submission invokes the unreliable evidence of Mr Dickinson that Arup or Mr Howlett looked at the relevant CEMS data; or that it is inherently unlikely they and Engie would not have known about the non-compliance.

295. The difficulty is that if that were correct, Mr Dickinson and Rothschilds would not have needed to go to such lengths to downplay the exceedances in their communications with Mr Cashin, including the "nice email" of 13 November 2015. And there would surely be a written record of Dr Archer's response, which could have been to "walk off into the sunset", in Mr Scales' phrase.

296. Nor do I accept that Mr Howlett or anyone else from Arup or Engie read Gaia's log books on site, whether or not they could have done so if they had insisted more forcefully. On the evidence I have, I am not satisfied on the balance of probabilities that they did. Mr Iredale, rightly or wrongly, was content with the eight pages of log entries provided, his request for which he recorded in early October 2015 as "Received & Approved".

297. Those eight pages substantially understated the extent of the problems. I am satisfied from Mr Dickinson's disingenuous emails and consequent admissions of untruthfulness in cross-examination that he selected the pages carefully. His evidence that Arup or Mr Howlett spent hours looking at log books and boiler water records was unconvincing. Why then did he take such care subsequently to manage and minimise the flow of information to Equitix?

298. So far as *capability of plant and equipment* is concerned, I am satisfied that the extent of Gaia's inability to fulfil its business purpose and to meet at least a decent proportion of Greenergy's steam demand was not a disclosed matter, in that it was not disclosed with sufficient details to enable Equitix to make a reasonably informed assessment of the scope of the matter disclosed.

299. I accept that neither the financial model nor the Fichtner report gave any assurance that the plant was capable of delivering 76,000 MWh per year. Mr Cashin's reports to his fund investment committee show he was far from sure of achieving that output. His modelling included scenarios which involved the plant performing poorly. The question, however, is whether the plant's inability to meet even low levels of steam demand was sufficiently disclosed.

300. That question is not fully answered by the defendants' submission that Equitix knew the plant had never met and would be unlikely to meet Greenergy's fluctuating demand without modifications to the system, namely a buffer vessel or kerosene boilers, and a control valve system; nor by its further submission that Mr Cashin knew the actual steam output history and used it in reporting internally within Equitix.

301. The updated disclosure letter of 5 August 2016 referred to the proposal to instal a control valve intended to deal with the "InterTerminals preference" issue. The inherent slowness of a biomass boiler to react to fluctuations in demand, compared to an oil fired boiler, was common industry knowledge. The giving by Greenergy of sufficient notice of demand changes, coupled with the control valve system, were presented to Equitix as the solution to difficulties with meeting Greenergy's demand and Gaia's business purpose.

302. However, what was not disclosed in the disclosure letter was the impact of the condition of the plant and equipment, and its mismanagement, on its ability to meet Greenergy demand: the excess emissions, the build up of solid material in the grate, the problem of "min depression" and the overdosing of the boilers with reagents. The Fichtner report did not expose the extent of these problems and the damage they had caused and were continuing to cause.

303. Nor did Mr Cashin or Dr Archer have actual knowledge of the extent of the plant's condition and the way it was being managed. That was, in my judgment, mainly because Mr Dickinson, assisted by Rothschilds, contrived to impart to them as little knowledge of the plant's shortcomings as possible, out of concern that Equitix would walk away from the deal if it knew all there was to know.

304. The next three matters can be taken together both in relation to the "disclosed matters" sub-issue and the "actual knowledge" sub-issue. They are *boiler water quality*, *overdosing of lime and urea* and *boiler tube failure*. They can be considered compendiously not so as to take any illegitimate short cut but because the analysis is the same and leads to the same conclusion: the falsity of the relevant warranties was not a disclosed matter, nor one of actual knowledge.

305. The reasoning supporting that conclusion is that the true position relating to boiler water quality and lime and urea dosing, and the true extent of the damage to the plant and equipment when the boiler tube failed, were kept from Equitix which was, deliberately, told a good deal less than it needed to know because of a concern that the deal for Equitix to acquire Gaia would otherwise be lost.

306. In relation to the overdosing with lime and urea I accept, as Equitix does, that the presence of a single CEMS would be likely to lead to a degree of overdosing and consequent build up of TDS. The Fichtner report included mention of that point. But Mr Cashin and Dr Archer were not made actually aware of the extent of the overdosing, nor of the scaling damage it would be likely to cause and, as I have already noted, did cause to the boiler tubes.

307. The next matter to consider is the *refractory*: was the falsity of warranty 3.1.1 by reason of the refractories, as I have found, not being kept in good repair a disclosed matter and was it within the actual knowledge of Mr Cashin and/or Dr Archer?

308. The specific incidents in February and September 2015 when Mr Brownlee had encountered falling bricks and felt unease were not disclosed to Equitix. The relevant disclosures made were those of Mr Dickinson in October and November 2015 when he referred, in the context of discussions about the life-cycle of the refractories, to a "Trigger's Broom" approach and to having "set hares running" in discussions about life cycle with Uniconfort.

309. I do not think Mr Dickinson's limited revelations in the emails he sent in October and November 2015 were sufficient to add up to a disclosed matter or one of actual knowledge that the refractories had not been kept in good repair. That was not stated in the SSA, nor in the updated disclosure letter. I do not think Mr Dickinson's limited revelations said enough to equip Mr Cashin or Dr Archer with awareness that the refractories had not been kept in good repair.

310. Finally, as regards the *Greenergy contract and relationship*, I have found that warranty 3.2 was false because (among other things) in the letter of 19 February 2016 (and at other times) Greenergy had "indicated an intention" to terminate the Greenergy contract; whereas warranty 3.2 was to the effect that it had not done so. The question now is whether that was a disclosed matter and, if not, whether it was one of actual knowledge.

311. Clearly, it was not a disclosed matter because it was not mentioned in the SSA or in the disclosure letter and it postdated the dispute which, the defendants stated in the disclosure letter, had been "resolved". However, as for actual knowledge, Mr Cashin had been present at the difficult meeting on 9 February 2016 and well knew that Greenergy had indicated at that meeting that it was seriously contemplating terminating the Greenergy contract.

312. There is no liability for breach of warranty where "the facts and circumstances giving rise to the claim" are known to Mr Cashin or Dr Archer. The circumstances giving rise to the claim are those in which Greenergy had indicated an intention to terminate the Greenergy contract. They included the writing by Mr Owens of the letter of 19 February 2016 and the circumstances referred to in it, i.e. the points Mr Owens made in the letter.

313. In certain respects, the content of the letter went beyond the evidence of what was said at the meeting on 9 February. First, they confirmed that Mr Owens was (or wished to appear) still incandescent ten days later. Next, they referred to a meeting with Mr Fox in Bath on 12 February 2016 and a "joint telecon" on 17 February. Those conversations postdated the meeting on 9 February and clearly did not calm Mr Owens down.

314. Furthermore, the language used in the letter, unless it were interpreted as mere posturing, was very strong; the phrases "Not Fit for Purpose" (referring to the boilers) and "Culture of Spin and Denial" (referring to Gaia's *modus operandi*) were among those used as headings. The last three paragraphs referred specifically to an intention to terminate: "… the struggle must end here … Greenergy will not be requiring further steam … you should leave the site…".

315. I conclude that, while Mr Cashin knew that Greenergy had indicated an intention to terminate the Greenergy contract at the meeting on 9 February 2016, neither he nor Dr Archer knew that it had reiterated that intention in forceful terms after two further conversations with Mr Fox. In so far as those matters went further than what had been said at the meeting of 9 February, the defendants have no defence to the falsity of warranty 3.2 in relation to the letter.

Issue 3: Value of Shares; Warranted and Actual

316. The third issue is in two parts. First, what was the value of the shares as warranted (i.e. the value of the shares on the basis that the warranties were correct)? Second, what was the true value of the shares, i.e. the value of the shares taking into account such warranties as were false; and in respect of which there was no "disclosed matter" or "actual knowledge" defence?

317. The defendants in their closing submission address the fourth issue first, which I consider below: what loss and damage, if any, Equitix has suffered as a result of the defendants' breaches of warranty. They reason, among other things, that Equitix "received what it paid for" and suffered no loss, even if any breaches of warranty are established.

318. If that is correct, there would logically be (at least prima facie) no difference between the value of the shares as warranted and their actual value. That proposition can be tested by considering the third issue, which I now do in the order in which it appears in Fraser J's order recording and approving the parties' agreed formulation of the issues.

Gaia's value as warranted

319. I consider first the value of the shares as warranted, on the basis that the warranties were correct. Equitix's case is relatively simple. It says the correct amount which the court should adopt is the figure agreed, until the middle of the trial, by the forensic accounting experts, namely £14.45 million as at 5 August 2016. That figure is reached in the following way by the experts.

320. The "total consideration" payable under the SSA was £17,254,779. The "base consideration" was £16.45 million, adjusted to £17,254,779 to take account of certain amounts as provided in the SSA: an RHI adjustment amount; the insurance proceeds payment; an adjustment to the base payment under Schedule 8; and a "working capital adjustment" under clause 3.7 and Schedule 5.

321. For convenience, the experts agreed to use the "base consideration" figure of £16.45 million since (for reasons I need not go into in detail) using the adjusted figure of £17,254,779 would make no difference to their calculation; only the amount of the lower figure of £16.45 million would be affected by any breaches of warranty.

322. The experts then agreed that the £2 million placed in escrow to await the meeting of certain conditions (related to performance testing) should be deducted from the base consideration figure of £16.45 million, reducing it to £14.45 million. The £2 million remains in escrow to this day. The soundness of the accounting experts agreeing to exclude it from the "as warranted" value of Gaia's shares was not initially criticised; though the defendants say it should be "brought into account" when assessing the amount of any loss.

323. Equitix submits that the best evidence of market value is the price paid for the shares, particularly by experienced willing parties bargaining hard at arm's length in a tense negotiation. This was common sense and supported by the cases: *Triumph Controls Ltd v Primus International* [2019] EWHC 565 (TCC) at [486] (O'Farrell J); *Sycamore Bidco Ltd v Breslin* [2012] EWHC 3443 (Ch) at [391] (Mann J); *Ageas (UK) Ltd v Kwik-Fit (GB) Ltd* [2014] Bus LR 1338 at [14] (Popplewell J); and *Bir Holdings Ltd v. Mehta* [2014] EWHC 3093 (Ch) (HHJ David Cooke).

324. The experts, until mid-trial, agreed and jointly supported the figure of £14.45 million ascribed to the "as warranted" value of Gaia's shares. However, before giving evidence, but after hearing Mr Cashin's oral evidence, Mr MacGregor, the defendants' forensic accounting expert, wrote a letter saying he had changed his opinion and now thought Equitix had, imprudently, paid over the odds for Gaia's shares, above its market value.

325. Specifically, Mr MacGregor wrote that Equitix had "made its own assumptions as to the forecast output of the Gaia plant". This was, indeed, the defendants' case, but late disclosure of drafts of the "Gate 1" and "Gate 4" papers during or on the eve of trial might be thought to have lent more force to it. Mr MacGregor's revised opinion was that Equitix's predictions for output of the plant were over-optimistic.

326. Furthermore, in his letter Mr MacGregor wrote that Equitix did not take into account in deriving the purchase price the risk attaching to the extensions clause in the Greenergy contract … on the evidence now available to me … Equitix has overvalued Gaia, to the extent that the claimant overvalued Gaia as a result of not acting knowledgeably and prudently when the price paid … no longer reflects the market value".

327. I felt Mr MacGregor's change of view should be entertained in so far as based on the first of the two reasons he gave, that Equitix relied on its own assumptions about the plant's output capacity, rather than on the financial model. Although much of the material was there to be seen before the trial, I took into account the late disclosure of the draft "Gate" papers from Mr Cashin to the fund investment committee.

328. However, I was less enthusiastic (and said so at trial) about permitting Mr MacGregor's revised opinion to be relied on in so far as founded on his assessment of Equitix's assessment of the risk as to duration of the Greenergy contract. The optional five year extension clauses had been known to the defendants from the outset; it was their company, Gaia, that agreed to them.

329. They were not news to Mr MacGregor; nor was Equitix's assessment of them, which quite apart from the Gate 1 and Gate 4 papers was included in the "Equitix model". I did not accept that Mr Cashin's oral evidence transformed the position and revealed a fundamentally different approach to that available to Mr McGregor and the defendants from disclosed documents and Mr Cashin's witness statements.

330. It was these, after all, that had enabled Mr Hargreaves to elicit the answer "agreed" from Mr Cashin to his point that the Greenergy contract might not be renewed beyond 10 years and "… you simply wrote off the risk of the 10-year non-renewal, rather than attempting any sort of smoothing or blending or anything else to take account of that risk; is that correct?"

331. In closing, the defendants pursued the submission that the forensic accountants were wrong to agree that the price paid reflected the "as warranted" market value, because the price paid was based on Equitix's own predictions as to output, which were not warranted; and because no downward adjustment was made to reflect the risk of termination by Greenergy, or non-renewal by Greenergy after 10 years.

332. The defendants referred to the concept of prudence in the wording of the relevant "International Valuation Standard", to which my attention was drawn. They relied on

Greenergy's refusal to sign a comfort letter, Equitix then waiving the requirement that it should do so and Equitix's reluctance to commit more time and money to the project after the negative meeting in early February 2016.

333. The defendants also explored, in the cross-examination of Ms Hill, possible supervening negative external factors, for example market vicissitudes such as oil market price fluctuations that might have led Greenergy to pull out of the arrangement on the tenth anniversary of the Greenergy contract rather than agreeing to renew it for a further five or ten years.

334. Equitix objected that the defendants should not be allowed to change its case on the "as warranted" market value of Gaia's shares. It contended that the change was procedurally unfair because it was denied the chance to ask questions of Mr Botterill about whether they had "ripped off" Equitix in presenting the shares for sale. Ms Hill's written evidence, too, would have been different if she had been addressing the market value issue as an unagreed matter.

335. Those points have real merit, but Mr MacGregor was bound by his expert declaration to bring his change of mind to the attention of the court; and it then becomes a matter for case management how to deal with it, if that is possible without unfairness. Recalling witnesses would have been difficult within the time allocated and was not requested by either side. I said at trial I thought Mr MacGregor's revised opinion should be entertained to the extent I indicated.

336. I do not accept that any want of prudence is shown by Equitix's reliance on the steam output figures in the Equitix model. The predicted output was 6.8 tonnes of steam per hour, rising over 16 months to 10.3 tonnes per hour. On the basis that the warranties were true, that is not an unreasonable prediction on which to decide what price to offer. It was well below the assumed output of 12.67 tonnes per hour in the financial model base case scenario.

337. As Equitix pointed out in its closing, in the context of the counterclaim, Mr Botterill in his witness statement described the period from mid-May to the start of August 2016 as "a fair period over which to assess the actual performance of the plant in the period prior to Completion". If it was not unreasonable for Mr Botterill to look at data from that era for his purpose, it was not unreasonable for Mr Cashin to focus on output data from June and July 2016, rather than earlier historic data going back to 2014.

338. If Mr MacGregor were allowed to rely on a failure to take account of the risk of termination after 10 years, that was a risk that was fully considered by Equitix at various stages of the analysis. Mr Cashin's answer to a single question does not change that. Nor is the case improved by trying to squeeze out of the word "prudently" in the International Valuation Standard an artificially risk averse approach to investment. The vicissitudes put to Ms Hill that could lead to early termination were all negative "glass half full" points.

339. However, a prudent approach to investment does not mean the investor must assume everything will always turn out for the worst. An investor acting prudently can, without doing violence to the language of the International Valuation Standard, equally weigh in the balance external market factors that could encourage Greenergy to keep the contract going; e.g. rising oil prices, likely increases in RHI subsidies, and so forth.

340. Although the defendants' late change of position has required me to deal with this issue at greater length than one would expect where these experts, case law and common sense all treat the price paid as normally the best evidence and indication of market value on an "as warranted" basis, I can express my conclusion briefly: I find nothing in the defendants' arguments, nor in the expert or lay evidence on which they are based, to displace that norm.

341. In my judgment, the most persuasive evidence is not that relied on by the defendants at the end of the trial in written and oral closing submissions. It is the evolution of the parties' assessments and modelling, their experience and expertise in their respective fields; the plant operator on one side and the equity investor on the other; the refinements in the modelling over time; and the intensity of the negotiations that went to the wire in relation to price, moving the defendants to comment in opening that "the Claimant drove a hard bargain".

342. In my judgment, Ms Hill was correct to point to those features as tending to confirm the view that this was a normal case where the price paid was the best evidence of open market value; and Mr MacGregor was right to agree with that view until he was moved – without calculating any alternative lower figure - to alter it on what seem to me flimsy grounds, for the reasons advanced by Equitix.

343. I therefore conclude that the correct figure for the purpose of calculating the "as warranted" market value of Gaia's shares as at 5 August 2016 was £14.45 million. At some points during the trial, the defendants appeared to question the inclusion within that figure the amount of certain loans generating debts of upwards of £6 million to Lloyds Bank, Aqua Ventures and others. That point was, rightly, not pursued and I need not address it further.

Gaia's true value

344. The next part of this second issue is: what was the true value of the shares, i.e. the value of the shares taking into account such warranties as were false; and in respect of which there was no "disclosed matter" or "actual knowledge" defence? Equitix submitted that, on its best case, the "true value" of Gaia was nil; while the defendants' best case was that it was not less than the amount Equitix paid.

345. The question is what a hypothetical open market purchaser with no special interest or characteristic affecting the amount it would be willing to pay, knowing that (to the extent I have found) the warranties were false, would have been willing to pay for Gaia as at 5 August 2016. Equitix's detailed submissions drew heavily on the evidence of Ms Hill; while the defendants in their arguments relied on the analysis of her counterpart Mr MacGregor.

346. The main battleground in argument was over how the hypothetical purchaser would have gone about valuing Gaia. Various "scenarios" and variants of each scenario (which could be called "sub-scenarios") were modelled in Mr MacGregor's and Ms Hill's reports. There were five main scenarios which were numbered 1A, 1B, 2, 3 and 4. If you include all the sub-scenarios, there were in all at least 15 of them.

347. The first scenario, 1A (**lower steam output**) was: Gaia performing the Greenergy contract over 10 years or 20 years with net chargeable heat output not at the levels

envisaged in the financial model or the Equitix model, but those actually achieved between 23 December 2015 (the date of the original SSA) and 5 August 2016, or in the six months leading up to 5 August 2016.

348. The second "first" scenario, 1B (**GMO steam output**) was: Gaia performing the Greenergy contract over 10 years or 20 years with net chargeable heat output at the level of the GMO (which in the Greenergy contract, it may or may not be recalled, was 45 per cent of the AHD).

349. The next scenario, 2 (**remedial costs and delay**) is based on Gaia performing the Greenergy contract over 10 years or 20 years after fixing the plant and equipment to bring it to the "as warranted" condition, with a delayed start and corresponding lost income while the remedial work is done.

350. The next scenario, 3 (**sale of assets**) assumes no further income from steam production and is based on the sale of the property, plant and equipment on a non-operational scrap basis.

351. The final scenario, 4 (**reduced return**) posits an assumed reduced IRR on Equitix's investment to reflect the enhanced risk that Gaia may not be able to perform the Greenergy contract, which may be terminated for breach at any time or not extended at the end of the ten year period.

352. The parties' written and oral submissions were lengthy and detailed, as were the experts' reports and their oral evidence. A much briefer paraphrase is appropriate here.

353. Equitix's main points can be summarised as follows:

(1) Scenario 1A (lower steam output) is the right one to adopt for reasons Ms Hill states: it is the "key variable" driving cash flow projections; it was the variable used by Equitix to tone down the financial model projections; and warranties of quality were obtained to underpin the projected output.

(2) Mr MacGregor accepted the logic that a hypothetical market purchaser knowing the warranties of quality were false might well use lowered projected steam output, reasoning (as he put it in cross-examination) "let's build in some sensitivity and lower it …".

(3) It was reasonable, as Ms Hill opined, to take actual output in the half year or so preceding the revised SSA as the average future output over the life of the Greenergy contract. A hypothetical purchaser would adopt a "proof of the pudding is in the eating" approach, as Mr Cashin did.

(4) The GMO steam output scenario (1B) was also realistic; it was used in both the financial model and the Equitix model as a "downside" scenario. However, it was less likely to be adopted than 1A, for fear Gaia might not produce enough steam even to earn the GMO.

(5) The lower steam output scenario (1A) should not be rejected merely because steam output would be likely to increase after improvement works. A hypothetical

purchaser may hope for such increases over the 10 or 20 year period but not be prepared to pay anything to reflect that mere hope.

(6) The hypothetical purchaser would have valued Gaia on the basis of a 10 year contract life, not a 20 year contract life. That was all that could be expected given the history of serious relationship difficulties and past unreliability of steam supply.

(7) Alternatively, the reduced return scenario (4) should be adopted as the most likely. Mr MacGregor accepted that if adjusting assumed output is not used the other key variable is what he prefers to call the "discount rate … the rate at which you discount your future cash flows …" to reflect increased risk.

(8) Ms Hill's alternatives to the 10.89 per cent IRR in the Equitix model - 20 or 25 per cent, based on a Harvard Business School paper (while acknowledging a paucity of data) were reasonable, even generous to the defendants given the nature and extent of the increased risks to cashflows.

(9) Mr MacGregor does not suggest any alternative IRR figure, while accepting the logic of using an increase in the discount rate to reflect an increase in the risk to Gaia's cashflows. More broadly, the defendants criticise Equitix's approach without advocating clear alternatives supported by figures.

(10) The court could fairly and plausibly find that a blend of 1A (lower steam output) or 1B (GMO steam output) and 4 (reduced return) would be adopted by the hypothetical purchaser. If so, the experts would need to produce figures based on further modelling to reflect that approach.

(11) While the remedial costs and delay scenario (2) could be used, that is unlikely because the hypothetical purchaser would fear that the remedial work would fail to bring the plant up to the standard needed to produce the steam output (and therefore income) within the Equitix model.

(12) Mr Ash accepted that he could not be confident his proposed remedial works would succeed in achieving the levels of performance in the Equitix model. A hypothetical purchaser, advised accordingly, would not value Gaia by deducting remedial work costs from the "as warranted" value.

(13) That leaves scenario 3, sale of assets. Mr Mascall's valuation of the assets at £1.343 million as at 5 August 2016 (the only figure produced as at that date) overlooked the condition of the plant and equipment, wrongly assuming it to have been in good condition.

(14) Taking account of its actual condition, Mr Mascall accepted that its *in situ* value as at 5 August 2016 was the same as its value at the date of trial, had it been adequately mothballed, namely £200,000. The court should adopt that figure if it finds that the sale of assets scenario would have been used.

(15) Inflated figures valuing Gaia at sums in tens of millions of pounds in Equitix's accounts dating from 2017 and 2018 were irrelevant; they may have included anticipated recoveries from the present proceedings and predated a full understanding of all the defects.

354. I summarise the defendants' main counter-arguments, as I understand them (see paragraph 132 of their written closing), as follows:

(1) There can, logically, be no difference between the "as warranted" value and the true value of Gaia because Equitix has suffered no loss by reason of the alleged breaches of warranty, for the reasons advanced in six submissions on the fourth issue, which the defendants made first in their written closing.

(2) The defendants' six submissions on the fourth issue are:

(i) Equitix got what it paid for, a plant that may or may not be capable of producing 76,000 KWh per year;

(ii) for there to be any diminution in value[2], the diminution must exceed the sum of the deferred consideration and the £2 million escrow sum;

(iii) Equitix's and Gaia's accounts for the relevant accounting years disclose no loss;

(iv) no loss was caused by breach of the *capability of plant and equipment* and *Greenergy contract and relationship* warranties;

(v) the cost of remedial works is not claimed and has largely not been paid for; and

(vi) the remedial costs and delay scenario (2), the only realistic one, ignores that Equitix knew about and budgeted for them, but has not done them.

(3) Next, after (i) repeating those submissions under the third issue (diminution in value, if any) (see paragraph 132 of their written closing) the defendants add three further submissions: (ii) scenarios (1), (3) and (4) are unrealistic (iii) the remedial costs and delay scenario (2), the only realistic one, produces negligible diminution in value and (iv) (contrary to my finding) no reliable "as warranted" value is available.

(4) The lower steam output (1A) and GMO steam output (1B) scenarios ignore intended works to improve performance and thereby undershoot the International Valuation Standard definition of market value which includes "highest and best use" of Gaia i.e. use "that maximises its potential and … is possible, legally permissible and financially feasible".

(5) If a hypothetical purchaser were to conclude that despite those proposed improvement works to address fluctuations in steam output (illustrated by Engie's brief on appointment as O&M contractor and its plant study in October 2016), it would have abjured scenarios based on output and opted for the sale of assets scenario (3) as the correct approach.

(6) The reduced return scenario (4) was one Ms Hill was instructed to consider but she noted that it "may be regarded as unrealistic by [Equitix]… and I have not been able to identify publicly available sales data in the biomass sector". The Harvard

[2] Shorthand for the difference between the as warranted value of Gaia's shares and their true value.

Business School document does not support the chosen 20 and 25 per cent IRR rates.

(7) The sale of assets scenario (3) is at odds with what Equitix actually did when it took over the plant; a sensible "cross-check" helping to determine what a hypothetical purchaser would probably have done. Far from selling the physical assets for scrap, Equitix set about trying to improve them.

(8) A hypothetical purchaser would have known that Greenergy's right of pre-emption of the plant and equipment under the Greenergy contract was relevant to what value the purchaser would have placed on the plant and equipment, as Ms Hill eventually accepted; indeed, Greenergy showed interest in using the boilers "for alternative service" in 2018.

(9) The remedial costs and delay scenario (2) was the only realistic one. Of its many variants (the detail of which was explored in the experts' reports) one by way of example (2A.3.3), positing all Mr Ash's improvement works save for a steam buffer tank or accumulator produced (on certain assumptions) a diminution in value of £1.72 million by Mr MacGregor's reckoning.

(10) That might serve as a starting point but various downward adjustments to that figure were necessary, discussed in detail in written closing submissions (paragraphs 140-144); the costings should be lower based on Mr Walmsley's figures and Mr Ash's list of works; and the IRR of 10 per cent was also inapt.

355. I come to my reasoning and conclusions in relation to the true value of Gaia's shares. I start by reminding myself of the findings of breach of warranty. Poor quality feedwater had been used in the boilers. As a result, they had been operated for long periods with damaging TDS levels. That in turn had led to very high noxious emissions. The boilers had been overdosed with lime and, particularly, urea in an attempt to reduce the emissions.

356. Instead of explaining these defects to Equitix (and Greenergy and the EA) and attempting to operate the boilers properly, the defendants played down the defects and continued to drive the boilers hard to produce as much steam as possible, to keep Equitix interested in the deal. The overdosing, meanwhile, was causing corrosion to the steel parts and scaling.

357. The boilers, especially boiler 2, were badly damaged and unable to produce any steam at all from 3 August 2016, for months. The steam output figures in the financial model had become grossly misleading. Equitix had not primarily relied on them in assessing the plant's steam output capability; it had made its own assessments. But those assessments had to an extent drawn on the financial model and were wholly unrealistic, particularly after 3 August 2016.

358. The boilers had been operated in serious breach of Gaia's environmental permit. The EA had taken no action, perhaps due to ignorance of the breaches because the obligation to report them had not been complied with either. However, if proper repair work were carried out, the plant was not intrinsically incapable of producing steam ever again. It could (and later did) do so and it could (and later largely did) operate in compliance with the environmental permit.

359. The steam output had never attained the AHD level of 12.67 tonnes per hour for sustained periods. Gaia's relationship with Greenergy was very poor. The blame was not all one way; Gaia blamed Greenergy for the feedwater quality. The relationship was in graver jeopardy than Equitix knew because Mr Fox's contacts with Mr Owens between 9 and 19 February 2016 had, evidently, failed to heal the rift, as shown by Mr Owens' (undisclosed) letter of 19 February.

360. While a change of ownership might herald better relations if trust could be built through the use of a candour unknown to Mr Dickinson, the risk was high that Greenergy could terminate the Greenergy contract either at, or even before, expiry on 20 December 2022 of the 10 year initial contract period. The potential for a dispute with Greenergy, possibly leading to litigation, was high.

361. Greenergy also had the option, if it wished, to purchase the plant and equipment on termination for an "Event of Default", i.e. material breach (or insolvency). It would be unclear to a hypothetical purchaser how that right might play out, or be valued, if Greenergy terminated the contract relying on a material breach. A dispute could well ensue if that were to happen.

362. However, the fixed acquisition cost, (in Schedule 9 to the Greenergy contract), appears to be based on the plant and equipment being in normal condition, not badly damaged and thus looks high (e.g. £8.425 million as at 5 August 2016, in year 3). So Greenergy would probably not be interested in exercising its option if it were to terminate for material breach, unless a lower price were negotiated or substantial repairs done. The hypothetical purchaser would understand that.

363. The hypothetical purchaser would be well aware of the proposal to instal control valves and oil firing capability as an antidote to the issue of InterTerminals securing preferential supply of steam, because its oil fired boiler was more adaptable than a biomass boiler to frequent short term fluctuations in Greenergy's demand for steam.

364. The hypothetical purchaser would, however, view the proposal with some scepticism because the configuration of the new valve system was not fully known, because relations with Greenergy were not necessarily conducive to the cooperation and good will required for the plan to work and because the "root cause" of the problem was (in Arup's phrase) that "biomass boilers cannot modulate rapidly and therefore will not meet the demand profile of Greenergy".

365. Such would have been the main features of the Gaia proposition as they would have presented themselves to a hypothetical market purchaser of Gaia's shares, as at 5 August 2016. Given the sorry state Gaia was in, such a purchaser might well not be interested in acquiring those shares at all. After all, Mr Scales of Rothschilds thought in November 2015 that if Dr Archer knew the full extent of only the emissions breaches he might "walk off into the sunset".

366. However, the authorities do not permit the court to assess Equitix's loss on a "no transaction" basis. The principal warranties breached were warranties of quality; hence the need to ascertain the diminution in value. There is some risk of artificiality when undertaking the exercise. Given the state Gaia was in on 5 August 2016, would a hypothetical purchaser be interested? If in reality it would not touch Gaia with a bargepole, why pay anything for the shares?

367. Nonetheless, an assessment of the true value of the shares must be made. And in the world of business there are, moreover, many buyers of shares and assets who see opportunity in an ailing enterprise. Thus, an entrepreneur may buy a debt ridden football club for £1, determined to turn it around; though perhaps motivated by sentiment as well as financial opportunity.

368. I reject the defendants' logic in addressing the issue of loss (the fourth issue) before the issue of diminution in value (the third issue). Whether or not loss was suffered depends on measuring the diminution in value, if any. To establish that no loss was suffered, there must first be a finding that the difference in value is nil. That issue must therefore be addressed first, in line with Fraser J's order and the parties' agreed formulation of the issues.

369. I do not understand the defendants' submission that for loss to be suffered, any diminution in value must exceed the deferred consideration plus the £2 million in escrow. The deferred consideration was payable subject to conditions and contingencies not yet (subject to the counterclaim) met as at 5 August 2016. The escrow sum is not included in any loss calculation because both experts treated it, rightly, as not forming part of the price actually paid for Gaia's shares.

370. I accept that works to improve performance were planned and commissioned and that remedial works were commissioned and that Gaia appears largely not to have paid for them. I do not, however, accept that the hypothetical purchaser paying for "highest and best use" of an asset, that "maximises its potential and … is possible, legally permissible and financially feasible" necessarily means using the asset to produce steam.

371. The perceived financially feasible highest and best use does not mean the hypothetical purchaser must display reckless optimism (contrasting with the pessimism the defendants accused Mr Cashin of lacking by not properly pricing in the risk of non-renewal of the Greenergy contract). The hypothetical purchaser could, without doing violence to the language of the International Valuation Standard, decide the highest and best use would be sale for scrap.

372. I do not find the entries in Equitix's and Gaia's accounts of assistance. The experts, including Mr MacGregor, attached little importance to them. They may have been wrong; they may have been based on an incomplete understanding of the true state of Gaia, its assets and trading position; they may have allowed for recovery of loss through this case, as Mr Cashin thought. I do not know. They are not a reliable guide to the true value of Gaia's shares.

373. In my judgment, the hypothetical purchaser with those matters in mind would most likely have engaged in the following process of reasoning. First, it would not have used the GMO steam output scenario (1B). The GMO output level was used by the defendants and Equitix for "downside" modelling purposes; but was an essentially arbitrary amount, representing not so much likely steam output capability as guaranteed minimum income.

374. It is true that Gaia would only get that income if it could supply the steam needed to earn the income, if the GMO level of steam were actually demanded. But I do not see any necessary logical connection between the GMO level of demand and the plant's

steam generation capacity. I therefore put the GMO steam output scenario (1B) to one side.

375. Next, the hypothetical purchaser would have considered the lower steam output scenario (1A). Given the condition of the plant and equipment and applying the financial modelling of Ms Hill, which I accept, it would have concluded, from the track record of steam production over the six or seven months preceding 5 August 2016, and assuming only that amount should be counted on for the future, the proposition was not viable and the value of the shares was nil.

376. Next, I do not think the hypothetical purchaser would have placed any faith in a valuation based on the remedial costs and delay scenario (2). Such an exercise would be rejected as too risky. There was a real likelihood that the remedial costs would be wasted because the plant would never, despite them, reach a sufficient output capability to make any real money.

377. Furthermore, notwithstanding the remedial works and perhaps during them, Greenergy would be likely to terminate the Greenergy contract, either for material breach leading to an untidy and unproductive dispute, or at the 10 year point on 20 December 2022 which was only (as at 5 August 2016) six years and five months away.

378. Next, I do not think the hypothetical purchaser would have valued the shares using the reduced return scenario (4). I accept that adjustments to projected IRR are frequently used as a modelling tool by private equity investors. But, by similar reasoning, there was a strong likelihood that there would be no return at all on the hypothetical purchaser's investment, due to high remedial costs, high termination risk and failure to produce enough steam soon enough.

379. All that does not mean, however, that the true value of Gaia's shares was nil. There remains the sale of assets scenario (3). Having gone through the above reasoning process, the hypothetical purchaser would still reason that the assets have value. The site did not belong to Gaia but the physical assets - the plant, machinery and equipment - did.

380. The hypothetical purchaser would be likely to say to itself: "I can be confident of not losing money from this investment provided I pay less than the scrap value of the physical assets. At worst, I can sell them off and break even or make a modest profit. At best, I may be able to re-set the relationship with Greenergy, renegotiate the Greenergy contract and at that stage consider whether it could be worth investing more to pay for repairs and remedial costs."

381. I am satisfied, on that reasoning, that the hypothetical purchaser would most likely require a quick, painless and loss-free exit strategy to be available. It would set the price it was willing to pay for Gaia's shares on that basis. It would not be willing to take on Gaia's debts, which were approaching £7 million. It would not be willing to pay more than it could recoup by selling the assets.

382. What resale value would the hypothetical purchaser place on those assets? Greenergy's ownership of the site, its adjacent premises and its right of pre-emption would serve to identify Greenergy as a potentially interested buyer, but surely not at the elevated price

provided for in Schedule 9 to the Greenergy contract, given the state of the plant and equipment.

383. Mr Mascall's valuation of the physical assets as at 5 August 2016 at £1.343 million does not, as Ms Hill rightly pointed out, take into account the damaged state of those assets and the cost of repairing them. I accept that taken on its own, it represents an over-valuation. But, as already noted, there were factors that might push the value upwards as well as downwards.

384. One was the potential for Greenergy to pay a small premium because of the synergies I have just mentioned, namely the convenience of the location and its need for steam. Another (fairly mentioned by Ms Hill) was the possible scope for a modest amount of income from steam production during the "wind down" period pending break up of the assets for sale.

385. A third, less tangible, was the outside chance that the damage to the physical assets and to relations with Greenergy might just be undone, the slate wiped clean and a fresh start (with further investment) achieved. An energetic entrepreneur with a bullish temperament (like the purchaser of an ailing football club for £1) might pay a small premium for the assets, with that hope in mind.

386. Taking a broad axe to the value of the physical assets, with those considerations in mind, I find that our hypothetical purchaser would be willing to offer £1 million for the shares; less, because of their condition, than the £1.343 million attributed to them by Mr Mascall, but more than the £200,000 at which he would have valued them, as at 5 August 2016, if they had been mothballed in August 2016 rather than in early 2018.

387. For those reasons, I find that the true value of Gaia's shares as at 5 August 2016 was £1 million. The difference between their "as warranted" value (£14.45 million) and their true value is therefore £13.45 million.

Issue 4: Claimant's Loss and Damage

388. The fourth issue is: what loss and damage, if any, did Equitix suffer as a result of the defendants' breaches of warranty? Equitix submits that the answer is, straightforwardly, the amount of the diminution in the value of Gaia's shares, which I have found to be £13.45 million. The defendants' answer is nil; Equitix has suffered no loss and "[t]he claim … has from the start been a try-on".

389. In cases of breach of warranties of quality, the measure of damages is generally the difference between the "as warranted" value of the shares purchased and their true value, i.e. in this case the figure I have decided upon of £13.45 million. That measure represents "the difference between what the vendor promised and what the vendor delivered" (Salzedo et al, *Fraud and Breach of Warranty: Buyer's Claims and Sellers' Defences* (2020 edition) at 8.29).

390. It is supported by cases already cited such as *Triumph Controls Ltd v Primus International* (O'Farrell J) at [486], *Sycamore Bidco Ltd v Breslin* at [391] (Mann J) and *Ageas (UK) Ltd v Kwik-Fit (GB) Ltd* (Popplewell J) at [14]; and in Blair J's summary in *The Hut Group Ltd v Nobhar-Cookson* [2014] EWHC 3842 (Comm) at

[180], stressing that no one valuation method is prescribed and that reaching a sensible result is more important than the method used.

391. The court does not normally ascertain the consequences of the breach of warranty by looking at subsequent events. If a likely loss of business consequence of the breach does not come to pass, damages are usually not reduced on that account because a share purchase agreement normally involves allocation of risk between the parties and there is no windfall to the buyer if a risk does not eventuate; see the discussion of the cases in Popplewell J's judgment in *Ageas (UK) Ltd v. Kwik-Fit (GB) Ltd* at [23]-[40]).

392. The position is different where the warranty breached is one of "process", for example where a financial forecast warranted to have been prepared with reasonable care has not been. There, it is the usual measure of damages that puts the victim in the position it would have been in had the contract not been breached: see Salzedo et al, *op. cit.* at 8.43:

> "[i]f a purchaser can show that had the warranted forecast been prepared with proper care, the outcome would have been that the purchaser would not have bought the shares at all, then the starting point for damages ought to be the same as in a tort claim: the loss of the purchase price, less the gain of the value of the shares acquired. Conversely, if the purchaser cannot show that it would have acted differently had the forecast been prepared with proper care, then the vendor can assert that no loss was caused by the breach of warranty."

393. The defendants rely on six submissions to support their contention that Equitix suffered no loss. I have already paraphrased these and assessed them and mainly rejected them, when addressing the third issue, above, where the defendants relied on them in support of their contention that there was no diminution in the value of Gaia's shares, a contention I have rejected.

394. I agree that the *prima facie* measure of damages is the diminution in the value of the shares attributable to the falsity of the warranties of quality breached. Some warranties were of process: the reasonableness of the opinions in the financial model and, arguably, the assurance that the environmental permit had been complied with. Their presence among the warranties does not disentitle Equitix from recovering the full measure for breach of the warranties of quality.

395. The amount of Equitix's *prima facie* loss in respect of the breaches of the warranties that were false and in respect of which there was no "disclosed matters" or "actual knowledge" defence, was therefore £13.45 million. I use the expression *prima facie*, however, because that conclusion is subject to any necessary adjustment arising from the next and fifth issue, to which I turn next.

Issue 5: Post-Completion Events and Failure to Mitigate

396. The fifth issue is whether, in assessing the damages, if any, to which Equitix is entitled, it is permissible and/or necessary to have regard to events post-dating completion of the SSA on 5 August 2016; if so, to what post-completion events it is necessary to have regard; and what allowance or adjustment, if any, should be made as a result of Equitix's alleged failure to mitigate its loss, at common law and/or (if applicable) under paragraph 15.1 of Schedule 5 to the SSA.

397. The way in which that issue is formulated requires the court to look again at the question of supervening events, after the date of purchase, for the purpose of assessing Equitix's losses; and whether events occurring after the date of purchase can be prayed in aid, as the defendants submit, by way of exception to the normal rule excluding hindsight in share valuation cases.

398. Further, on the subject of mitigation of loss, included within the fifth issue are the following questions: has Equitix acted in accordance with any duty to mitigate in respect of the carrying out of any technical or remedial work that was or ought to have been carried out, and if so what allowance should be made? And has Equitix acted in accordance with any duty to mitigate in respect of its relationship with Greenergy?

399. Paragraph 15.1 of Schedule 5 to the SSA (**para 15.1**) provides as follows:

> "The Buyer [Equitix] shall (and shall procure that the Company [Gaia] shall) take all reasonable action to mitigate any loss suffered by it or the Company which would, could or might result in a claim … against the Sellers."

400. Equitix submits, first, that the date of assessment of the diminution in value is the date of purchase, i.e. 5 August 2016. Second, the measure of damages for breach of warranties of quality generally precludes any adjustment on account of later events; see the cases cited above and *Joiner v. George* [2003] BCC 298, [2002] EWCA Civ 160, per Sir Christopher Slade at [74]: the principle that "hindsight ought to be excluded" was "a statement of the general legal principles of share valuation so well established as to require no amplification".

401. However, Equitix says, subsequent events may be considered for the purposes of a cross-check as to the reasonableness of a forward looking estimate; or, exceptionally (per Popplewell J (as he then was) in *Ageas (UK) Ltd v. Kwik-Fit (GB) Ltd* at [37]-[38]) where recourse to subsequent events "is necessary to give effect to the overriding compensatory principle" ([37]), keeping "firmly in mind any contractual allocation of risk made by the parties" ([38]).

402. There is no further exception, Equitix submits, permitting reliance on events subsequent to the date of purchase for the purpose of applying the doctrine of mitigation of loss, i.e. reducing damages by an amount the claimant would not have lost if it had taken reasonable steps to mitigate its loss. A purchaser of a business has no opportunity to mitigate its loss because the loss is the receipt of and overpayment for a business that was not as warranted. As Salzedo et al put the point at *op. cit.*, paragraph 8.29:

> "… a defendant vendor is unlikely to be able to get any argument of failure to mitigate off the ground: the purchaser has no opportunity to mitigate the loss because the loss is defined as the receipt of a business worth less than the one that was promised."

403. Equitix points out that the measure of damages for breach of a warranty of quality may favour the warrantor seller in breach, as well as the buyer victim of the breach. Thus, if a manufacturing component essential to the profitability of the business sold is – in breach of a warranty - not in place at the time of sale but is thought at that time to be easily obtainable, and then is not obtained, it does not assist the buyer if the component is unavailable through no fault of the buyer, for example because of an unexpected import ban.

404. In that example, Equitix submits, the buyer bargains for a company that could easily be rendered profitable by obtaining the missing component. The *ex post facto* comparison between the value of the shares as warranted and their true value would have to proceed, not on the basis of the supervening unavailability of the component, but on the basis that it was at the time of sale easily available. It would be the buyer's "tough luck" that it then could not obtain the component.

405. Alternatively, Equitix submits that if mitigation is relevant, the onus is on the defendant to show an unreasonable failure to mitigate; the threshold is low because the party in breach has created the innocent party's difficulties; the latter need not embark on expensive and difficult litigation with an uncertain outcome; and it is not enough for the defendant to show that the steps it proposes would be reasonable; it must show that not taking them was unreasonable.

406. I record that the citations for those well known propositions were: *Banco de Portugal v. Waterlow & Sons Ltd* [1932] AC 452, per Lord Macmillan; *Harlow & Jones Ltd v Panex (International) Ltd* [1967] 2 Lloyd's Rep 509 at 530 (Roskill J); *Wilding v British Telecommunications plc* [2002] ICR 1079 at [55] (Sedley LJ); *County Ltd v Girozentrale Securities* [1996] 3 All ER 834 at 857-8 (Hobhouse LJ); *Borealis v Geogas Trading* [2011] 1 Lloyds's Rep 482 at [46] (Gross J); *Pilkington v Wood* [1953] 1 Ch 770 at 777 (Harman J); *Jon Olafsson v Foreign and Commonwealth Office* [2009] EWHC 2608 (QB) at [13]-[14] and [33] (Eady J); and *Standard Chartered Bank v Pakistan National Shipping Corp* [2001] CLC 825 at [38]-[41] (Potter LJ).

407. As for para 15.1, Equitix submits first that it merely codifies and adds nothing to the common law doctrine of mitigation of loss; and second that in a share sale case such as this there is no room for that doctrine to operate because of the way damages are measured, as discussed above. It could only operate if the warranty breached were one not of quality but of process, where damages are measured in the conventional manner. Further, a claim (or counterclaim) would have to be brought by the defendants asserting a breach of the duty, and none has been.

408. As to the facts, Equitix contends that if any obligation to mitigate loss arose, the defendants have not shown that Equitix unreasonably omitted to take a particular step, either by way of undertaking technical or remedial work, or improvement works, some of which are now relied on but not pleaded; or in relation to the handling of the relationship with Greenergy, which eventually foundered in 2017 and 2018 but not in a manner that has led to litigation.

409. The defendants submit, as I understand their case put in closing submissions, that supervening events may be considered not just as a cross-check against the loss of value assessment, but also in relation to causation of loss; the court must separate loss caused by risks allocated to the buyer, Equitix, which is not recoverable, from loss caused by risks allocated to the sellers, the defendants, which alone is recoverable.

410. The defendants also say that supervening events are relevant to whether Equitix acted unreasonably by failing to mitigate its loss; both at common law in that losses that are avoidable by not acting unreasonably are deductible from damages; and pursuant to Equitix's express duty to take and procure that Gaia should take "all reasonable action to mitigate any loss suffered by it or [Gaia] which would, could or might result in a claim … against [the defendants]."

411. As regards the common law rule, which is not a true "duty" to mitigate at all, the defendants rely on the formulation in *McGregor on Damages*, 21st edition, at 9-004 (citing also at 9-014 and 9-081): "[p]ut shortly, the claimant cannot recover for reasonably avoidable loss". I interpose that the formulation there must be understood in the sense (with apology for the awkward double negative): "the claimant cannot recover for loss unreasonably not avoided".

412. As for para 15.1, the defendants say it includes common law mitigation and also goes further by creating an express duty whose content sets a higher threshold than the common law. The obligation to take "all reasonable action", the defendants point out, is to procure action by Gaia as well as by Equitix itself. It equates, they say, to an obligation to make "all reasonable endeavours", which means "best endeavours". And it requires Equitix to act against losses that "could or might result in a claim" by Equitix against the defendants.

413. The defendants further submit that if Equitix were right and para 15.1 does no more than restate the common law rule, it would not be expressed as a positive duty and indeed would be otiose and would not be there at all. Para 15.1, they submit, operates by protecting them against losses incurred after the date of purchase which would have been avoided if the para 15.1 duty to take "all reasonable action", i.e. use best endeavours, had been performed.

414. Mr Hargreaves responded to a query from me about how damages would be measured: should I calculate the diminution in value and then deduct from it an amount representing breach of the para 15.1 duty? Mr Hargreaves said the court should look first at the nature of the breach of warranty of quality - for example, poor water quality – calculate how much should reasonably have been spent to put it right – say, £85,000 – and limit recovery to the amount of mitigation expenditure that should have been incurred; in that example, £85,000.

415. Applying that approach, the breaches of warranty of quality were, he submitted, easily remediable by targeted action and modest mitigation expenditure running into hundreds of thousands of pounds rather than millions. Equitix could and should have brought the plant and equipment back up to standard and failed, in breach of the para 15.1 duty, to do so. Therefore, say the defendants, Equitix cannot recover the extravagant amounts claimed.

416. As to the facts, the defendants rely on their pleaded case, set out in their amended defence and counterclaim at paragraphs 38A to 38G (dealing with the circumstances in which the Greenergy contract was terminated), 56, 56c1, 56c2 and 57a-f. Paragraph 56c1 relates to business opportunities and subsidiaries of Gaia, but no submissions were made in relation to those two matters. Paragraph 56c2 puts Equitix to "strict proof" (if it bears the onus of proof):

> "that it complied with its common law and contractual obligations to mitigate its alleged loss of value in the Gaia shares, in its operation of the Plant and Equipment".

417. Paragraph 57 charges Equitix, further or alternatively, with failing to mitigate any losses it suffered by failing properly to manage any repair work required; failing to ensure the control valves were installed; replacing the refractory walls using a different supplier, SRL, rather than Uniconfort; failing to notify the defendants promptly of such

defects as there were in the plant and equipment; and (by amendment) failing to enforce Gaia's rights against Greenergy.

418. Though no points were formally abandoned, not all of the pleaded points were actively pursued by the end of the trial. The suggestion that the defendants should have been invited to become involved in repair works was not pressed and is not realistic. Nor was the ambitious submission that Uniconfort, rather than SRL, should have been instructed to repair the refractory walls. The defendants persistently criticised Uniconfort's services and performance.

419. In closing, the defendants' main submissions were, in my brief paraphrase, as follows. The detailed submissions were elaborated at paragraphs 353-421 in the defendants' opening and paragraphs 150-164 of their closing submissions.

(1) Equitix should have pressed ahead with the plan to instal a new control valve system to regulate the flow of steam and address the dominance of InterTerminals as lead supplier. The settlement agreement contemplated this and the defendants had allocated £50,000 plus VAT for that purpose. Contrary to Equitix's contention, Mr Ash's evidence that this would have worked should be preferred. Mr Walmsley estimated that it would have cost about £107,000. The court should reject the explanation of Dr Archer and Mr Cashin that the much more expensive option of kerosene boilers were considered a better way forward; and that Greenergy was unwilling to proceed and terminate InterTerminals' supply.

(2) Equitix should have installed kerosene boilers in addition to procuring the introduction of the new control valve system. However, it only installed a single, temporary kerosene boiler, very late, in 2017. Equitix should have acted much sooner. Greenergy's impatience was understandable. While the cost of permanent kerosene boilers was significant (over £1.7 million, on Mr Walmsley's estimate), it would have been money well spent and would have done a lot to appease Greenergy.

(3) Equitix should have installed a steam buffer tank, also called a steam accumulator system. This was contemplated in the final "Gate 4" paper and in the settlement agreement, but was never done. The vessel would have accepted steam at times when Greenergy demand was low and held it ready for release when demand increased. Not to do so was a breach of the para 15.1 duty because the buffer tank would at least have helped to meet Greenergy demand at the level of the AHD. While the need for a buffer tank would depend on how effective the control valves were, the issue was never put to the test because the control valves were not installed.

(4) Equitix should have installed a second CEMS so that noxious emissions could be accurately measured from each boiler separately. That would have enabled regular dosing with lime and urea at the correct level and given Gaia greater control over emission levels. The cost would have been, in Mr Walmsley's estimation, a little under £108,000 and would have made installation of a second flue unnecessary. Dr Archer accepted he was aware before completion that there was only one CEMS.

(5) Equitix should have relocated the condensate meter (used to measure RHI condensate return, which generates income from the RHI scheme) from a horizontal

to a vertical position. It would have cost (according to Mr Walmsley) about £4,000 to do so, could have protected (according to Mr Botterill) about 100 times that amount of value and was reflected in the inclusion within the SSA of an "RHI Adjustment Amount".

(6) Equitix should have spent a few tens of thousands of pounds on implementing the recommendation of Mr Branch and Engie that an improved blowdown system be installed, with a drain at the (hot) rear of the boilers and an inspection door. That would have helped prevent operation with poor quality feedwater. Once the remedial works were complete following the tube failure in boiler 2, no further loss of value was caused by any breach of warranty as to the condition of the plant. Further, no work was ever done on installing proper water treatment facilities.

(7) The works which Equitix failed to carry out could have been done during planned downtime and accommodated within ordinary plant maintenance schedules, as Mr Ash explained, without impinging on steam production. The prior design and planning work could have been done while the plant was producing steam at pre-SSA levels, preferably with kerosene boilers in place during the transition period.

(8) Equitix should have procured that Gaia enforce its rights as against Greenergy under the Greenergy contract. The latter did not have the right to terminate it for material breach and was, itself, in repudiatory breach of contract by walking away prematurely, before expiry of the 10 year period, as Equitix asserted in correspondence in December 2017. Yet, Equitix has not pursued Greenergy for damages; nor invoiced for GMO payments, either before or after termination, as it should have done; nor pursued claims in respect of water quality; nor enforced the right to become the lead supplier.

(9) Equitix had sufficient funds, on the evidence, to do all those things and, further, could have economised by scheduling the works during planned downtime, as Mr Ash explained; thus not eating into production time. The failure to generate income by, in particular, not invoicing Greenergy for GMO payments denied Equitix a source of funding unnecessarily. It is no answer to say that Greenergy would not have paid the invoices.

(10) Finally, the plant and equipment were not adequately mothballed; if they had been, their residual value in early 2018 would have stood at about £200,000 rather than being assessed at nil. The cost of demolition or removal does not have to be deducted because the purchaser would have paid that. And, there is no evidence of any marketing of the mothballed plant and equipment to any potentially interested purchaser.

420. I come next to my reasoning and conclusions on this important part of the case. First, to what extent is it permissible or necessary to have regard to events post-dating completion of the SSA on 5 August 2016?

421. Looking at that issue, first, without reference to para 15.1, I would provide an orthodox and uncontroversial answer to the first part of that question: it is permissible and appropriate to do so as a cross-check in respect of the reasonableness of any forward looking consideration relevant to the share valuation exercise.

422. For example, I have found that a hypothetical purchaser, aware that the boilers had been operated in serious breach of the environmental permit would, nonetheless, consider that if proper repair work were carried out they were not incapable of producing steam ever again or of operating in compliance with the permit. The fact that the boilers later did both these things is a legitimate matter to take into account as a cross-check supporting the validity of that finding.

423. I do not think this is a case where supervening events should be taken into account on the basis that the valuation exercise depended on a future contingency. There was no such contingency, on the facts here. Nor do I see any basis for treating this as an exceptional case where, in line with the reasoning in the *Ageas* case, exclusion of hindsight would lead to a violation of the compensatory principle and a windfall for the buyer.

424. Some of the scenarios in the cases may not be easy to reconcile with others. The example from Popplewell J in *Ageas* of a horse, warranted to be healthy, but with a latent disease and the potential to become lame, which then does not become lame, may be difficult to reconcile with the example by given by Equitix of an essential component, falsely warranted to be present and thought to be easily obtainable, but subsequently becoming unexpectedly unobtainable.

425. In the latter example, the breach of warranty is trivial with minimal impact on objective value, but a low downside risk eventuates with major consequences for the buyer. In the former example, the breach is grave with major impact on objective value, but a high downside risk does not eventuate, to the good fortune of the buyer. Popplewell J at [36] in *Ageas* said that "[t]o award the buyer half the price of the horse would offend the compensatory principle and provide the buyer with a windfall."

426. Another view might be that the buyer was duped into paying double the value of the horse and the seller obtained a windfall of half the price paid. *Bir Holdings Ltd. v. Mehta* might be thought to involve a windfall for the buyer, though HHJ David Cooke thought not. The seller failed to disclose non-registration with a scheme rendering the business ineligible for certain custom; but in the event no harm was done as there was no discernible effect on the business. The judge decided that the latter point did not assist the seller.

427. I do not find it necessary to engage in the discussion further, since in my view the present case is one where – subject always to the issue of mitigating loss, to which I will return shortly – the court should not allow hindsight to play a part in the share valuation exercise, which I have already undertaken on a conventional basis, without recourse to hindsight other than as a cross-check. Risk was allocated as between buyer and sellers by the warranties of quality.

428. I come next to the question of mitigation. In my judgment, Equitix is right to submit that there is no room for the common law doctrine of mitigation of loss to operate. As the defendants rightly point out, the doctrine is not, as it is often described, a "duty" to mitigate loss in a strict sense. It is a rule that avoidable losses are irrecoverable if a claimant acts unreasonably by not avoiding them.

429. In a normal share valuation case such as this, where the measure of damages is the ordinary one for breaches of warranties of quality, steps taken or not taken by the buyer

to mitigate its loss after the purchase are simply irrelevant and of concern only to the buyer, not the seller. The loss has already crystallised at the point of purchase. I therefore agree with Salzedo et al that in such a case the seller will have difficulty getting a mitigation argument off the ground.

430. In the present case, so far as the common law doctrine of mitigation is concerned, the sellers' arguments on mitigation remain firmly earthbound. Whether the impact of the common law mitigation of loss rule might be different in an exceptional case where the compensatory principle requires a different approach to prevent a windfall to a buyer, is not something I need decide. The seller's position may be better in such a case.

431. I turn next to the buyer's para 15.1 duty. In my judgment, para 15.1 does have potential purchase on the issue of mitigation, but not to the extent of altering fundamentally the manner in which damages are measured for breach of the warranties of quality. That, as I have said, remains the normal diminution in value method.

432. Para 15.1 has, in my judgment, the following characteristics and effect. First, it should be given some meaning and not be treated as otiose. I do not think Equitix is correct to submit that it does not have any application at all in this case because the main warranties are of quality and therefore mitigation is not relevant. That is correct at common law, but not, I think, under para 15.1.

433. Equitix's interpretation would not prevent para 15.1 from having relevance in other cases, e.g. where a warranty breached is one of process or where some other kind of claim for breach of contract, not involving a breach of warranty, is at issue. But in such a case, the common law would have the same effect and para 15.1 would be otiose, if it is co-terminous with the common law.

434. I think the better view is that para 15.1 creates a duty to act to mitigate losses in the circumstances here also. If I am wrong about that and Equitix's construction of para 15.1 is correct, then that it is the end of the matter and the defendants get no help from para 15.1. If I am right, the next question is what is the scope and content of para 15.1.

435. In my judgment, para 15.1 does import into the SSA a duty to mitigate which would otherwise be redundant and of no relevance in a case where the share valuation method is used to assess damages. To give the paragraph its full meaning, it should be treated as modifying the common law rule by bringing mitigation back into the equation, despite the method of assessing damages by reference to a diminution in share value.

436. Next, I think that the para 15.1 duty operates in the usual way, as a provision for deduction from damages the sellers would otherwise have to pay. I do not accept that it requires a separate claim (or counterclaim) to be brought by the sellers in the context of litigation. The purpose of para 15.1 is to reduce damages otherwise payable. It is unrealistic to propose that there could be a free standing claim for damages by the sellers under para 15.1.

437. Furthermore and importantly, I think the para 15.1 duty has been drafted with the common law rule in mind, although it does not replicate it precisely. It creates, as the defendants point out, a direct duty to mitigate, while the common law merely imposes a deductibility rule, albeit one often inaccurately described as a "duty to mitigate". I

do not think the existence of the duty should be defeated by the manner of assessing damages, as I have said.

438. However, I cannot accept the defendants' account of the content of the para 15.1 duty. It is a contract term drafted against the background of the common law rules on mitigation of loss. As such the onus should be, as at common law, on the party asserting a failure to mitigate to plead and prove the failure. It should not be for the other party to prove (as the defendants' pleading suggests) that it took all reasonable steps to mitigate its loss.

439. Secondly and more important, I do not accept that the content of the para 15.1 duty sets a standard of conduct that is any higher than the threshold imposed at common law. The drafter of the paragraph clearly had the common law in mind; and the limited nature of the innocent party's obligation is well known to those engaged in commerce. I see no reason to beef up the paragraph into a "best endeavours" obligation, as the defendants would have it.

440. The requirement to "take all reasonable action to mitigate any loss …" seems to me to mirror the common law standard, not to elevate it. I think those words were used as an approximation of, or proxy for, the standard set by the common law deductibility rule. If the drafter had intended to elevate the standard to the exorbitant one advocated by the defendants, I think the drafter would have said so in clear words.

441. I therefore think the usual limits to the mitigation rules apply when deciding whether the para 15.1 duty is breached: the onus is on the defendant to show an unreasonable failure to mitigate; the threshold is low (because the criticism comes from the party at fault); the victim need not embark on expensive and uncertain litigation; and it is not enough to show that the steps the seller proposes would be reasonable. In their commercial context, I think the words "all reasonable action" mean action it would be unreasonable *not* to take.

442. It still remains to consider how a breach of the para 15.1 duty would impact on the assessment of damages in a normal breach of warranty of quality case such as this, where damages would (but for the breach) be assessed purely by reference to the diminution in share value. I do not begin to accept that the method suggested by Mr Hargreaves in closing - restricting recovery to mitigation expenditure needed to remedy the breach of warranty – is right.

443. That method of proceeding, while it would be convenient to the defendants in this case, imposes far too high a standard on the buyer and treats the para 15.1 duty as though it were something very close to an obligation to do all it can to remedy the sellers' breaches of warranty using the buyer's own money. The clearest possible words would be required to produce a result so out of kilter with ordinary breach of warranty cases.

444. In my judgment, in an appropriate case, a deduction would have to be made from the diminution in share value figure. But of how much? It is not easy to devise a method for deducting from the breach of warranty damages a defendant seller must pay, in a case where the seller breaches warranties of quality but the buyer breaches its para 15.1 duty to mitigate; given that the primary measure of damages is likely to be produced by a share valuation exercise.

445. How the court would decide what amount to deduct in such a case is a matter I would need to consider further, if it were necessary to do so. The amount should be assessed by the court as best it can, having regard to the duty, the extent of the breach and the justice of the case. I do not, for the moment, need to decide on any particular method or formula for calculating the appropriate deduction.

446. To what post-completion events is it necessary to have regard? The answer is, to assess whether there was a breach of the para 15.1 duty, those pleaded and relied upon by the defendants, set out above. What allowance or adjustment, if any, should be made as a result of Equitix's alleged failure to mitigate under para 15.1? None, unless the defendants can show a breach of the low threshold "duty" to mitigate in the sense of the common law deductibility rule.

447. Applying that analysis to the facts and taking the defendants' arguments in the same order as above:

(1) I accept the submission of Equitix that it did not lie within its power to secure the installation of the control valves. Equitix's negotiating position vis-à-vis Greenergy was weak because of the condition of the plant, its track record and its inability, in the months after the SSA, to supply any steam. Greenergy was (despite its name) more interested in kerosene boilers as the vehicle for terminating the role of InterTerminals as a supplier of steam.

(2) I accept that it would have been beneficial for Equitix to have installed kerosene fired boilers, but not that Equitix acted unreasonably by failing to do so. The cost was high and there were long periods after completion when the plant could not operate at all. Equitix did instal one temporary kerosene boiler but by then it was too late to salvage the relationship with Greenergy. I do not find any breach of the para 15.1 duty.

(3) By the same reasoning, I do not find a breach of para 15.1 by reason of Equitix's failure to instal a steam buffer tank to hold steam in reserve and release it at times when demand increased suddenly. It would have been a good idea to instal one but, again, this is something like a counsel of perfection and it is not established that failing to get this equipment in place during the latter part of 2016 or in 2017 was unreasonable.

(4) As for installation of a second CEMS, there is no disputing that it would have been a useful thing to do and that the cost was relatively modest; but I do not think it is for the defendants to impose this requirement on Equitix; the defendants had, themselves, not installed one from 2014 to August 2016. It would have helped to measure emissions more accurately and reduce overdosing but it would not have made a fundamental difference to the capability of the plant, given the condition of the hardware in August 2016.

(5) I do not find a breach of the para 15.1 duty in Equitix's failure to procure a change in the orientation of the RHI condensate meter. This was a relatively peripheral issue; the main priority was, if it could be achieved, to secure renewed steam production. In the year following completion, the plant was unable to produce steam at all for lengthy periods. Equitix and Gaia were justified in focussing on that more important issue.

(6) By the same reasoning, I reject the submission that not installing an improved blowdown system was a breach of the para 15.1 duty. This proposal falls into the category of measures that it would be reasonable to take, but not unreasonable not to take. The two are not the same. The right time to take that step was earlier, when the defendants were in control of Gaia and before high TDS levels had damaged the boilers.

(7) I accept that some of the works suggested by the defendants could, if the boilers had been running anything like normally after August 2016, have been timed to take place during planned maintenance downtime. This observation about the timing of the works, however, overlooks that the plant was not running anyway for most of the year following completion. The timing point therefore does not assist the defendants.

(8) I do not accept that Equitix failed in its duty under para 15.1 in the way it handled the worsening relationship with Greenergy. To adopt an aggressive stance would have been to court termination and litigation. The defendants well knew the danger of aggravating the volatile Messrs Brocklesby and Owens. Rightly, they tried to avoid a litigious dispute. Equitix too was entitled to tread the path of reconciliation, not aggression, to avoid expensive litigation with an uncertain outcome. They would appear weak if they threatened (expressly or impliedly) to sue and did not do so. Invoicing for GMO payments would have generated no income, just raised the temperature. The same applies to the issue of feedwater quality.

(9) The defendants' next point, that the funding of remedial works was not prohibitive in view of Equitix's resources, does not go anywhere because I have not found that it was incumbent on Equitix under para 15.1, however deep its pocket, to pay for any of the works proposed by the defendants.

(10) Finally, I reject the contention that value was needlessly lost due to the plant not being adequately mothballed in early 2018. By then, the £1.343 million of value which it had in August 2016, had been lost. It was justifiable to delay the decision whether to mothball the plant until it had become clear, in late 2017, that the relationship with Greenergy was irredeemable. By then it was too late to mothball the plant in a manner that would, on the expert evidence before me, have preserved any of its value.

448. For those reasons, I make no adjustment to the figure of £13.45 million derived from the share valuation exercise, which I assess as the amount of Equitix's loss.

Issue 6: Liability Cap

449. The parties agree that the defendants' liability is limited to £11 million; see the liability cap provision to that effect in paragraph 3.2 of Schedule 5 to the SSA. The defendants are therefore, subject to the counterclaim, liable to Equitix for that amount by way of damages for the breaches of warranty.

Issue 7: Counterclaim; Deferred Consideration; Applicable Insurance Claim

450. The seventh, eighth and ninth issues arise from the counterclaim. The seventh is dauntingly complex. It is in four parts, as follows:

> "As to the defendants' counterclaim:
>
> (a) In relation to the Deferred Consideration provisions within Schedule 8 to the SSA, where there was an Applicable Insurance Claim, in respect of which the claimant received proceeds, should a term be implied into Schedule 8 to the SSA that the claimant would agree and/or would ensure that insurers determined the heat usage from the period covered by the Applicable Insurance Claim?
>
> (b) Was any Applicable Insurance Claim within the meaning of Schedule 8 to the SSA made by Gaia or on its behalf?
>
> (c) If Gaia did make an Applicable Insurance Claim, what is the consequence (if any) for the operation of paragraph 2.4 of Schedule 8 to the SSA?
>
> (i) Does paragraph 2.4.1 of Schedule 8 to the SSA require the Actual Heat Usage to be deemed to be 45% of the Base Usage?
>
> (ii) Alternatively, does paragraph 2.4.2 of Schedule 8 to the SSA mean that the Actual Heat Usage is such heat usage from the period of the Applicable Insurance Claim as was agreed with or determined by the insurers, or which ought to have been agreed with or determined by the insurers?
>
> (iii) Alternatively, does paragraph 2.4.2 of Schedule 8 to the SSA mean that the Actual Heat Usage is to be calculated by adding (1) the heat usage referred to in sub-paragraph ii. above and (2) the total heat actually produced for the period of the Applicable Insurance Claim?
>
> (d) In light of the foregoing considerations:
>
> (i) What, if any, Deferred Consideration are the defendants entitled to?
>
> (ii) Alternatively, are the defendants entitled to damages based on their lost chance of recovering Deferred Consideration as a result of the claimant's failure to agree with insurers and/or ensure that insurers determined the heat usage covered by the Applicable Insurance Claim?"

451. The overall consideration for the acquisition of Gaia comprised various amounts, some payable immediately and some contingently. There was "Initial Consideration" and "Deferred Consideration". The latter was the territory of Schedule 8 to the SSA (paragraph numbers in this part of my judgment are those in Schedule 8 unless otherwise stated).

452. Broadly, the amount of Deferred Consideration payable to the defendants every six months depended on how much steam Greenergy was paying for; if it took more steam than the amount of the AHD, the defendants' entitlement would increase; if less, it would decrease.

453. Subject to certain conditions, by paragraph 2.1, Equitix must pay the defendants "for each Period an amount equal to the Base Payment as adjusted in accordance with paragraph 2.4 below (each such payment being referred to as an **Adjusted Base Payment**)." The Base Payment was £759,496 (paragraph 1).

454. There were in fact ten "Periods" of six months each. Each ran (paragraphs 1 and 2.1) from 1 January to 30 June and then from 1 July to 31 December in each of the calendar years from 2016 onwards, for the following five years.

455. The "Base Payment" of £759,496 was then adjusted to ascertain the "Adjusted Base Payment" for each Period (paragraph 2.4). The Adjusted Base Payment was the Base Payment multiplied by the "Greenergy Steam Usage Adjustment" (**GSUA**) (less something called the "O&M Staffing Adjustment" which, as I understand is common ground, is zero here and can be ignored).

456. The GSUA was determined by reference to a table in paragraph 2.4, starting from an assumed Base Usage of 38,000 MWh (not KWh as, it is agreed, the SSA mistakenly stated) every six months, i.e. half the AHD figure already mentioned above of 76,000 MWh each year.

457. If actual heat usage in a six month Period was less than 45 per cent of Base Usage, the percentage multiplier which would be used was only 25 per cent. That would produce a GSUA of £189, 874, i.e. 25 per cent of £759,496.

458. The table then provides for the percentage multiplier to rise towards 100 per cent as the actual heat usage in a particular six month Period rises, though not in a linear fashion at the lower end of the scale, where the percentage multiplier is less than 100 per cent.

459. At the other end of the scale, if actual heat usage as a percentage of Base Usage was 130 per cent or more, the percentage multiplier used would be 130 per cent. That would mean a GSUA of £759,496 multiplied by 130 per cent, i.e. £987,344.80.

460. It may be recalled that Greenergy was obliged under the Greenergy contract to pay for, each year, at least the GMO amount, 45 per cent of the AHD, if Gaia could supply it, whether or not Greenergy actually took that amount of steam from Gaia.

461. Where the amount of steam supplied in a Period was less than 45 per cent of AHD for that Period (i.e. less than 45 per cent of 38,000 MWh), so that only 25 per cent of Base Payment would be payable to the defendants, that was however made subject to paragraph 2.4.1 which provides ("the Company" being Gaia):

> "Where actual heat usage is less than 45%, then the actual heat usage shall be deemed to be 45% provided that:
>
> (a) where the Company is entitled to the guaranteed minimum offtake payment from Greenergy Biofuels Limited under the terms of the Heat Supply Agreement, the Adjusted Base Payment will be payable to the Buyer to the Seller only once, and to the extent that, the guaranteed minimum offtake payment has been received by the Company from Greenergy Biofuels Limited or its parent company or other group company; or
>
> (b) where the Company is entitled to an Applicable Insurance Claim, the Adjusted Base Payment will be payable to the Buyer to the Seller only once, and to the extent that, the Applicable Insurance Claim payment has been received by the Company from the insurers; or
>
> (c) where the Company is not entitled to the guaranteed minimum offtake payment from Greenergy Biofuels Limited under the terms of the Heat Supply Agreement or does not

> receive an Applicable Insurance Claim, no Adjusted Base Payment will be payable by the Buyer to the Seller."

462. Thus, heat usage at less than 45 per cent was only treated as 45 per cent where Gaia was entitled to and had received the GMO payment from Greenergy or via an "Applicable Insurance Claim", as defined in paragraph 1 of Schedule 8, to which I will shortly return.

463. Paragraph 2.4.2 then provided as follows in relation to an Applicable Insurance Claim:

> "In the event that there has been an event during a Period in respect of which the Company has received proceeds arising from an Applicable Insurance Claim then … the Actual Heat Usage shall be deemed to include such heat usage from the period of the Applicable Insurance Claim as is agreed with or determined by the insurers. For the avoidance of doubt, Actual Heat Usage during any period which is excluded or deducted by the insurer from the Applicable Insurance Claim shall be deemed to be zero."

464. The first part of the seventh issue is whether, in the event of an Applicable Insurance Claim being made, a term should be implied into Schedule 8 to the SSA that Equitix would agree and/or would ensure that insurers determined the heat usage from the period covered by the claim. Equitix submitted that no such term should be implied, while the defendants argued that it should be.

465. Equitix submitted, first, that this issue only arises if an "Applicable Insurance Claim" was made at all and then only if the defendants need to rely on breach of the implied term as a source of damages. Equitix contended, however, that if the implied term was needed, the court would not be justified in implying it.

466. Its main submissions were as follows. First, the term does not satisfy the rigorous test that it must be "necessary to give business efficacy" to the contract, a test of strict necessity: see *Marks & Spencer plc v BNP Paribas Securities Services* [2016] AC 742, per Lord Neuberger PSC at [16]-[17] and [23].

467. Here, Equitix argued, the SSA worked perfectly well without the implication of the term proposed. The SSA was a lengthy, detailed, exhaustive, drafted with the involvement of experienced commercial solicitors. If the parties had intended to impose the obligation suggested, they would have said so expressly (*Liberty Investing Ltd v Sydow* [2015] EWHC 608 (Comm) per Leggatt J (as he then was) at [10]-[11]; *Fraser Turner ltd v PricewaterhouseCoopers LLP* [2019] EWCA Civ 1290, per Sir Geoffrey Vos C at [66].

468. Equitix pointed out that the term formulated sought to impose a strict obligation either to obtain the insurers' agreement or to ensure that they made a determination. Such a term would be at odds with the law's reluctance to impose an absolute obligation to achieve a particular result which is dependent on third party action which the obliged party cannot compel: see e.g. *Anglo Russian Merchant Traders v John Batt & Co Ltd* [1917] 2 KB 679, per Lord Reading LCJ at 685-686 and per Scrutton LJ at 689.

469. Furthermore, Equitix reminded me, it was a party to the SSA and would be the party subject to the implied obligation, if the defendants' argument succeeded; but Gaia, not Equitix, was the relevant party to the contract of insurance. Thus, it would be necessary

for Equitix to procure that Gaia, not Equitix, must somehow induce the insurers to agree or determine a particular level and period of heat usage.

470. In support of the suggested implied term, the defendants made the following main points, as I paraphrase them. The evidence of Mr Cashin and Mr Botterill confirmed the following points, which were also clear from the drafting of paragraph 2.4.2; see the words "agreed with or determined by the insurers".

471. First, paragraph 2.4.2 was there to prevent a windfall to Equitix by Gaia recovering insurance money from an insurer and not having to give credit for it to the defendants. Second, a business interruption claim and a recovery from insurers consequent on such a claim would be calculated by reference to lost revenue from steam supply and lost RHI payments. Third, paragraph 2.4.2 could not be operated unless insurers and insured (Gaia) cooperated to identify the relevant lost heat usage covering the period of the claim.

472. The defendants also relied on Lord Neuberger PSC's judgment in the *Marks & Spencer plc* case; at [18], he approved Lord Simon's fivefold formulation in *BP Refinery (Westernport) Pty Ltd v Shire of Hastings* (1977) 180 CLR 266, at 283:

> "… the following conditions (which may overlap) must be satisfied: (1) it must be reasonable and equitable; (2) it must be necessary to give business efficacy to the contract, so that no term will be implied if the contract is effective without it; (3) it must be so obvious that "it goes without saying"; (4) it must be capable of clear expression; (5) it must not contradict any express term of the contract."

473. Lord Neuberger added at [21] that a term should not be implied into a detailed commercial contract merely because it appears fair or merely because one considers that the parties would have agreed it if it had been suggested to them. Reasonableness and equitableness do not add much. If the other aspects of the test are satisfied so will these criteria be. It is only necessary to show business necessity – i.e. whether the term is needed for the contract to have commercial or practical coherence - or for the term to be so obvious it goes without saying.

474. The defendants submitted that those tests were amply met here because if the term suggested were not implied into paragraph 2.4.2, Equitix could give itself the very windfall the provision was intended to prevent by agreeing with the insurers that no heat usage figure would be used as a basis for settlement of a claim.

475. Further, they argued, if the term were not implied the avoidance of such a windfall would be, in the words of Mr Botterill's witness statement:

> "subject to the whim of others and whether they chose to specifically identify any period of Actual Heat Usage covered by the business interruption payment. On this premise, Equitix would be able to avoid payment of Deferred Consideration and take the windfall of any business interruption payment. This is wholly uncommercial and is not something that I would ever have agreed to. Of course, one of the things that you would expect a business interruption insurer to do when making a business interruption payment, is calculate this payment by reference to the lost heat production."

476. The implied term is clear, said the defendants, and does not contradict any express term of the SSA. It would be wrong not to imply the term on the basis suggested by Equitix,

that credit must be given under paragraph 2.4.2 only where Gaia and insurers agree, or the insurers determine, the level of heat usage covering the relevant period, on which the insurance payout is based (which may be different from actual heat usage during the period).

477. I think the defendants' submissions on this issue are in part correct. I agree with them that the tests for implying a term are met here. However, I do not agree that the obligation on Equitix to be implied should be an absolute one. That obligation would go beyond what is equitable and reasonable and necessary to give business efficacy to the contract. It is far from "so obvious that it goes without saying" that Equitix would guarantee a third party determination when it may have no power to compel the third party to provide it.

478. I think the appropriate implied term is that Equitix would use reasonable diligence to agree with or secure a determination from insurers of the heat usage from the period covered by the Applicable Insurance Claim. The purpose of the requirement that Actual Heat Usage be determined is to ascertain the defendants' entitlement, or lack of it, to Deferred Consideration. Unless Equitix engages with the insurers to have the amount of heat usage established, the purpose could be, as the defendants rightly say, wholly defeated.

479. I accept that the words "agreed with or determined by the insurers" necessarily entail some process of engagement between Equitix and the insurers. I am persuaded that without some obligation to engage with insurers, that part of the contract does lack commercial coherence. The "reasonable diligence" term already mentioned is, in my judgment, necessary to give business efficacy to the Schedule 8 regime for determining Deferred Consideration. It does not contradict any express term and it is equitable and reasonable.

480. The next part of the seventh issue I have to decide is whether any "Applicable Insurance Claim" was made by Gaia or on its behalf. I come to the definition of such a claim at paragraph 1 of Schedule 8:

> "… any business interruption insurance claim made by the Company at any time in relation to compensation for lost revenues associated with the sale of heat during the period from the Completion Date [5 August 2016] to 30 September 2020 excluding any such claim which is determined by the insurers to derive from:
>
> (a) damage caused by contaminated condensate return; or
>
> (b) design or implementation of the plant before the Completion Date;
>
> PROVIDED THAT any such claim will not be excluded if it is determined by the insurers to be caused by (i) operation of the plant after the Completion Date or (ii) by any act or omission of Greenergy Biofuels Limited (and which for the avoidance of doubt is not related to (a) above) in which case it will be an "Applicable Claim … ."

481. Equitix submits that its claim for business interruption insurance was determined by the insurers "to derive from…(b) … implementation of the plant before the Completion Date". Therefore, it submits, the exclusion bites and the claim was not an Applicable Insurance Claim.

482. The argument is that the claim arose out of the boiler failure on 3 August 2016, which in turn was caused by the "maloperation" of the plant and equipment prior to 3 August 2016, namely their operation with substandard feedwater and the overdosing of reagents, as discussed above.

483. Equitix contended that the obvious purpose of the definition, as Mr Botterill accepted, was to differentiate between an event for which the sellers are responsible, in respect of which a claim for business interruption is made; and an event for which the sellers are not responsible. Equitix should only have to account to the defendants for the insurance proceeds of the latter, not the former.

484. No specific form of determination by insurers was required, Equitix submitted. It was a matter of substance not form what insurers had "determined" the claim to "derive from". The brokers' email of 2 October 2017 showed a determination that the business interruption derived from a build up of sludge and scale due to running the plant with TDS four times greater than the limit. That was not, said Equitix, altered by the fact that the damage to the boilers themselves, other than to the ash conveyor system, was excluded from insurance cover.

485. The insurers' agents' email, it was submitted, stated that the build up of sludge and scale "can only have come from the water being used in the boiler". That was "implementation", i.e. operation of the plant prior to completion; it had caused the boiler tube failure, which had caused the damage to the ash conveyor system. There was no separate damage to, or cause of damage to, the ash conveyor system.

486. The defendants submitted, first, that Equitix had admitted it made a claim for £789,000 for business interruption losses, covering 106 business days. The signed insurance settlement and release dated 14 January 2019 showed that (after deducting the £20,000 excess) Gaia received £705,000 "in full and final settlement of [the] claim … in respect of loss or damage by Mechanical breakdown which occurred … on or about the 3 August 2016".

487. Next, the defendants pointed out, the email of 2 October 2017 showed that the claims in respect of the failure of the boiler 2 tubes were rejected, as was the claim in respect of boiler 1 to prevent a similar incident occurring; while the claim in respect of the ash clinker tray and conveyor system was covered: "… the resultant damage to the ash conveyor system, motors and mountings will fall under the policy cover as well as any associated business interruption".

488. Therefore, the defendants argued, insurers did not determine that the claim in respect of damage to the ash clinker tray and conveyor system was derived from implementation of the plant prior to completion. The "implementation" of the plant prior to completion was different from "operation" of the plant prior to completion. The "implementation" connotes the concept of installing or commissioning the plant; whereas "operation" means the actual running of the plant after installation and commissioning is complete.

489. Further, the defendants submitted that even if "implementation" is equated with "operation", insurers determined that damage to the boiler 2 tubes was not covered because of the manner in which it occurred, i.e. through gradual deterioration not due

to any excluded underlying cause such as design or implementation, or operation, of the plant prior to completion.

490. The email of 2 October 2017 included the statement that insurers had not seen any documents to establish the regime of feedwater supply to the plant and therefore could not know for sure what the quality of the boiler water had been. Therefore, they could not have made any positive finding or determination that poor water quality, i.e. implementation or operation of the plant, had caused the damage to the boiler 2 tubes.

491. Indeed, insurers' position was that, at best, poor feedwater may have contributed to the boiler 2 tube failure. The Branch report had, after all, stated that evidence from water testing showed that the boiler water quality had been "on average satisfactory". Thus, the insurers were asking questions about the cause of the tube failure rather than making any positive determination about what it was or that it was implementation or operation of the plant prior to completion. As for boiler 1, cover was excluded because damage to it had not yet occurred.

492. The insurance policy did not, the defendants pointed out, cover any physical loss, destruction or damage caused by or consisting of an existing or hidden defect (item 1(a) of Exceptions) or faulty or defective design (item 1(d)(i)), or operating error or omission (item 1(e)(ii)). If insurers had determined that poor water quality was the cause of the boiler 2 tube failure, they would have rejected the claim as falling within one of these Exceptions, but they did not do so.

493. In my judgment, Equitix is correct in its submission that the insurers determined the claim to "derive from … implementation of the plant before the Completion date". My starting point is that the causation test in the definition is broad and loose, using the phrase "derive from" rather than a narrower expression such as "result directly from" or "have been caused exclusively by".

494. This, in turn, reflects the broad purpose of the definition which, as Mr Botterill accepted, is intended to differentiate between business interruption for which the sellers are, or are not, responsible. That purpose is achieved by leaving insurers to determine whether a lost revenue claim "derive[s] from", among other things, design or implementation of the plant before completion.

495. I accept, next, that no formal determination from insurers is required and that the email from Mr Peter Scott of the brokers McLarens (forwarded by Mr Nigel Ward, Equitix's agent, on 2 October 2017) is the best evidence of what insurers determined. Both parties rely on that email as supporting their opposing interpretations of what the determination was.

496. I do not agree that the word "implementation", in this context, bears the narrow restricted meaning of "installation and commissioning". In my judgment, implementation includes installation and commissioning but also the operation, or running, of the plant prior to completion. If it were narrowly interpreted as the defendants contend, they would get credit for insurance proceeds for lost revenue caused by their fault, applying a common sense concept of causation.

497. The chaotic circumstances of the 3 August 2016 incident demonstrate how the causes of business interruption during repair time can be multiple, mixed and difficult to

disentangle from each other. This is reflected in the language of Mr Scott's email and his perhaps tortuous distinction between physical damage to the tubes of boiler 2 and to boiler 1, for which insurers declined liability (on the basis of a gradually developing cause); and damage to the ash conveyor system, motors and mountings, accepted as covered (as it was "resultant damage").

498. Mr Scott did not accept Equitix's suggestion that the feedwater was on the average satisfactory. He was sceptical about that because he had not seen documents evidencing the water treatment regime. He clearly attributed the "build up of scale" to the feedwater. He noted, correctly, that Laborelec's inspection on the very day of the incident indicated that "the Insured was clearly running the installation with TDS 4 times the limit".

499. Mr Scott's word "resultant" must refer to some cause or causes. On a fair reading, I think it refers in composite fashion to poor quality water, excessive TDS and the build up of scale, particularly in boiler 2. In my judgment, these are characteristics of the manner in which Gaia operated the plant up to 3 August 2016; and Mr Scott's findings do amount to a determination that the claim "derive[s] from … implementation of the plant before the Completion date".

500. I have already noted that the verb "derive" expresses a relatively broad and loose concept of causation. It may, I think, include more than one link in the chain of causation, as where A (feedwater) causes B (TDS) which causes C (scale build up) which causes D (physical damage to the ash conveyor) and E (lost revenue). That is my understanding of Mr Scott's word "resultant".

501. I do not accept the defendants' argument that Mr Scott's findings were tentative and fell short of the required determination, i.e. that he cannot have attributed the boiler 2 tube failure to poor water quality because if he had done so, liability for damage to the ash conveyor and the whole claim would have been denied in reliance on one of the "Exceptions".

502. It is true that insurers could have invoked one of these Exceptions, particularly operating error or omission. They chose not to, no doubt for their own commercial reasons. The choice they made to accept the claim in part may well have reflected commercial pragmatism more than anything else. Had they repudiated the claim entirely, a dispute could have ensued.

503. More importantly, the choice insurers made based on Mr Scott's findings is less important than the findings themselves. Those are to be found in his email, which is the best evidence before the court; while the reasoning on which insurers decided to proceed is not (and much of it is likely to be privileged).

504. For those reasons, I conclude that the exclusion in the definition of an Applicable Insurance Claim for a claim determined by insurers to derive from implementation of the plant prior to completion applies and, therefore, there was no Applicable Insurance Claim.

505. The third part of the seventh issue I have to decide arises on the hypothesis that, contrary to my finding, Equitix or Gaia did make an Applicable Insurance Claim. On that

footing, what is the consequence, if any, for the operation of paragraph 2.4 of Schedule 8 to the SSA?

506. Three possibilities are posited in the list of issues; that the actual heat usage is: (i) the deemed amount of 45 per cent of the Base Usage; (ii) the amount in respect of the period of the claim that was or ought to have been agreed with or determined by the insurers; or (iii) the amount in (ii) plus the total heat actually produced during the period of the claim.

507. Equitix submitted that even if there was an Applicable Insurance Claim, the defendants were not entitled to any Adjusted Base Payment, for the following main reasons, as I paraphrase them:

(1) Of the £705,000 Gaia received from insurers, only £600,000 can be said to relate to business interruption.

(2) Paragraph 2.4.1 only deems the actual heat usage to be 45 per cent of Base Usage where either Gaia received GMO payments from Greenergy or, if not, it received the equivalent of GMO payments as insurance proceeds.

(3) Here, the £600,000 of business interruption insurance proceeds did not reach the threshold of what GMO payments would have been, taken in isolation, calculated at £919,638.

(4) Nor did the £600,000 reach the GMO threshold of £919,638 if you add the price of steam actually supplied to Greenergy over the relevant period, £241,041.96, which added to £600,000 still only makes £841,041.96.[3]

(5) Therefore, the defendants get no help from paragraph 2.4.1. Nor does 2.4.2 assist them; it does not apply because no amount of heat usage was agreed with or determined by insurers in respect of the claim period.

(6) The defendants are wrong to say, as they do relying alternatively on paragraph 2.4.2, that the heat usage covered by the period of the claim was 13,780 MWh (106 MWh per day over 106 days).

(7) They are also wrong to add actual heat usage of 4,482 MWh over the period, resulting in a claim calculated at £247,002, either as Adjusted Base Payment or as damages for the lost chance of recovering that sum, resulting from breach of the implied term already discussed.

(8) The defendants are not entitled to that sum, or any sum (either as Adjusted Base Payment or damages for lost chance) because the term contended for should not be implied (see, however, the discussion above in which I have already partly rejected that contention).

[3] The method of calculating these figures is set out in Equitix's written closing submissions and, in the interest of simplicity, is not reproduced here.

(9) Further, the defendants' assessment of the lost chance is unrealistically optimistic; insurers would not have agreed or determined the actual heat usage for the period of business interruption to be 13,780 MWh.

(10) Mr Botterill's calculations, based on 14 weeks of steam output from May to July 2016, excluded data from five of those 14 weeks and only relied on the other nine weeks, using maintenance down time as his rationale.

(11) That was wrong; the outages during those five weeks must be attributed, on the evidence, to performance failures due to mismanagement of the boilers, not maintenance issues. Mr Botterill cannot cherry pick good days and exclude bad days; an insurer would look at combined usage on all the days.

(12) Further, Mr Botterill was wrong to take a period of 106 days; the claim in respect of business interruption arising from damage to the ash conveyor did not relate to the whole of that period, only part of it, as Mr Cashin explained.

(13) Finally, general endorsement 3 of the policy provided for a seven day excess period before business interruption cover commenced; the calculation period should, therefore, exclude those days, making 99 days.

508. The defendants argue, primarily, that if there was an Applicable Insurance Claim, the amount of actual heat usage is the amount in respect of the period of the claim that was or ought to have been agreed with or determined by the insurers, plus the total heat actually produced during the period of the claim. They submit that this is the plain meaning of paragraph 2.4.2.

509. That provision, the defendants say, means that actual heat usage is deemed to include, but is not limited to, the agreed or determined amount (or, relying on the implied term, the amount that ought to have been agreed or determined); and also includes the amount of actual steam supplied during the claim period. This interpretation is necessary to prevent a windfall for the insured party.

510. Nor can it be right, they submit, that where there is an Applicable Insurance Claim, paragraph 2.4.1 caps the actual heat usage at 45 per cent of Base Usage. The table entry "up to 45" above paragraph 2.4.1 can only apply in a case where, applying 2.4.2, the sum of actual steam supplied and the amount agreed with or determined by insurers comes to less than 45 per cent of Base Usage.

511. Alternatively, if the court rejects the suggested implied term, the absence of agreement with or a determination by insurers as to the heat usage during the period of the claim and the fact that actual steam output during the relevant period was less than 45 per cent of Base Usage means that actual heat usage is capped at 45 per cent of Base Usage, in accordance with the table above paragraph 2.4.1.

512. In my judgment, the defendants' interpretation of paragraph 2.4 is correct. The actual heat usage where paragraph 2.4.2 applies (i.e. where Gaia receives proceeds from an Applicable Insurance Claim) is the amount in respect of the period of the claim that was or should have been agreed with or determined by the insurers, plus the total heat actually produced during the period of the claim.

513. The structure of paragraph 2.4 is as follows. The normal way of calculating entitlement to an Adjustment is governed by paragraph 2.4.1 and the table within it. Paragraph 2.4.1 then deals with the abnormal position where actual heat usage is less than 45 per cent of Base Usage. It states two situations in which actual heat usage may be less than 45 per cent of Base Usage, yet the defendants may get more than the 25 per cent of GSUA provided for in the table.

514. Those two situations are, first, receipt of GMO payments from Greenergy (paragraph 2.4.1(a)) and second, receipt of proceeds from an Applicable Insurance Claim (paragraph 2.4.1(b)). Outside these two situations, and where Gaia is not entitled to receive GMO payments, i.e. where the plant is not operational and cannot supply steam, "no Adjusted Base Payment will be payable …" (paragraph 2.4.1(c)).

515. The relationship of those provisions to the entry in the table "[s]ubject to paragraph 2.4.1, up to 45" is not crystal clear but to give effect to those words I believe the defendants must be right to say that the entry "up to 45" above can only apply where, applying paragraph 2.4.2, the sum of actual steam supplied and the amount agreed with or determined by insurers comes to less than 45 per cent of Base Usage.

516. Moving on to paragraph 2.4.2: it refers back specifically to the situation in paragraph 2.4.1(b), where Gaia receives the proceeds of an Applicable Insurance Claim. Paragraph 2.4.2 then specifies how actual heat usage is calculated in such a case. It clearly states that it is "deemed to include" amounts agreed or determined by insurers but it does not exclude steam actually supplied to Greenergy during the period of the claim.

517. The sum total of these two elements that go to make up the deemed "Actual Heat Usage" in a case falling within 2.4.1(b) and 2.4.2 then determines which percentage of Base Payment is appropriate, within the right hand column of the table. Only if the sum total of the two elements is less than 45 per cent does the "up to 45" entry in the left column apply, corresponding to the 25 per cent in the right column.

518. That seems to me the right interpretation. I would add that the implied term does not, in my judgment, extend as far as including within the deeming provision in 2.4.2 ("deemed to include") amounts of heat usage that ought to have been agreed or determined by insurers and would have been had Equitix used reasonable diligence. In my judgment, that would be a step too far. Rather, breach of the implied term generates a right to damages, in the normal way.

519. The fourth part of the seventh issue I have to decide is to what, if any, Deferred Consideration the defendants are entitled; alternatively, are they entitled to damages based on their lost chance of recovering Deferred Consideration because of Equitix's failure to agree with insurers and/or ensure that insurers determined the heat usage covered by the Applicable Insurance Claim.

520. Equitix submits, for the reasons already set out above, that the simple answer is that the defendants are entitled to nothing. The defendants made detailed submissions asserting the contrary, which I paraphrase as follows:

(1) Their primary claim is that they are entitled to Deferred Consideration of at least £310,000, calculated as 40.8% of the Base Payment of £759,496 (which is £309,874.37 or £310,000 when rounded).

(2) The calculation method used starts from the premise that the GMO figure for 2016 at the time of the Applicable Insurance Claim (assuming there was one) was about £1.8 million. This is based on a fixed price in the Greenergy contract of £49.90 per MWh subject to annual indexation in accordance with a formula in Schedule 1 to that contract.

(3) The application of that formula to determine the appropriate increase in the fixed price elevates the fixed price per MWh to £53.78, the defendants submit by reference to publicly available sources of indexation figures. The annual GMO figure for 2016 is therefore, say the defendants, 53.78 multiplied by 45 per cent of 76,000 MWh, which comes to £1,839,276. [4]

(4) Further, the defendants say, Equitix's pleaded case was that it was compensated by insurers to the tune of £600,000 for business interruption (in respect of the damage to the ash clinker tray and conveyor system) by reference to a period of 106 days.

(5) Taking a round £1.8 million as the annual GMO in August 2016, 106 days of payment at GMO level would have equated to a payment from insurers of £522,000.

(6) These figures and calculations, say the defendants, demonstrate that Equitix received compensation for heat usage levels above that which would have been expected had it agreed with insurers that the heat usage covered by the claim was no more than the GMO level.

(7) The cross-examination of Mr Cashin only strengthened this argument, since he made the point that insurers compensate for lost profit only, after deducting "mitigable costs", i.e. business overheads. If these costs were added to the figure of £600,000, it would have been higher and the excess over the appropriate GMO figure of c.£522,000 would be greater, not less.

(8) Next, say the defendants, to see how far above 45 per cent of Base Usage is the actual heat usage represented by £600,000, you divide that £600,000 by £522,000 and multiply the resulting figure by 45, producing 51.7 per cent, rounded up to 52 per cent.

(9) Using the figure of 52 per cent and applying the "straight line basis" for adjusting the GSUA percentage (see the text beneath the table, immediately above paragraph 2.4.1), the appropriate percentage of Base Usage (the right hand column in the table) for the purpose of calculating the percentage of Base Payment payable, is 40.8 per cent.

(10) Applying that percentage to the Base Payment figure of £759,496 produces £309,874.37, rounded to £310,000. The defendants are entitled, they say, to at least that sum as Deferred Consideration.

[4] The formula, and the details of the calculation applying it, are set out in the defendants' closing submissions and, for the sake of simplicity, are not reproduced here.

(11) That is a conservative, understated figure: it does not include any actual steam production during the period covered by the insurance claim. The figure of £600,000 for lost revenue may be too low. It should exclude the seven day waiting period before business interruption cover starts.

(12) There is no breakdown in the settlement release agreement with insurers (totalling £725,000, less £20,000 excess). Disclosure of documents created during the settlement negotiations with insurers has been limited.

(13) The defendants submit, alternatively, that they are entitled to £247,002 as compensation for breach of the aforementioned implied term; that is the amount, they say, that emerges from Mr Botterill's calculation, explained in his first witness statement, of the notional steam production that should have been agreed with, or determined by, insurers, plus actual heat usage over the 106 day period of the claim.

(14) The criticisms of Mr Botterill's methodology in cross-examination were misplaced. Mr Cashin had used a similar method to make the claim; the fault was Equitix's for not producing a figure endorsed by insurers; the figure is lower than that produced using the GMO equivalent analysis; and Mr Botterill had used a similar method, successfully, when making an insurance claim in 2014 arising from contaminated condensate return.

(15) The "broad axe" approach is required where damages cannot be exactly quantified. That approach should not favour the party in breach of the implied term; the breach was the reason damages could not be precisely quantified: see *One Step (Support) Ltd v Morris-Garner* [2019] AC 649 per Lord Reed JSC at [36]-[38]. The best available evidence was to proceed from the GMO calculation put to Mr Cashin in cross-examination.

(16) In the further alternative, the defendants say, they are entitled to Deferred Consideration of £189,874. That figure is 25 per cent of the Base Payment figure, £759,496. This is the figure derived by using the "up to 45" entry in the table and from the defendants' alternative construction of the provisions if the court had rejected the suggested implied term.

(17) Finally, the defendants say in the yet further alternative that they are entitled to damages for loss of the chance of recovering Deferred Consideration by reason of Equitix's breach of the implied term, if the court accepts its existence and if the court considers that the amount of Deferred Consideration cannot be calculated simply by analysing the figures.

(18) The chance to be assessed is that the insurers would have agreed or determined a certain amount of steam usage on which the insurance payout was based; i.e. the court must examine the hypothetical actions of a third party (cf. *Allied Maples Group Ltd v Simmons & Simmons* [1995] 1 WLR 1602), assess the percentage chance that the insurers would have so acted and, if they had, what the notional steam production figure would have been.

(19) While the matter is one of impression for the court, the chance was very high, as high as 90 per cent, that insurers would if asked have agreed to specify the notional

steam production figure covering the 106 days of the claim (or 99 days if the first seven days are excluded).

(20) The defendants rely on the evidence from Mr Botterill and Mr Cashin about the manner in which they approached their respective calculations. They also make the common sense point that calculating notional steam production is the very thing insurers have to do in order to quantify how much to pay out for a business interruption claim of this kind. There is no reason why they should not have agreed to specify the figure.

(21) If the court accepts that the chance that they would have done so is as high as 90 per cent, the appropriate 100 per cent figure argued for in the earlier part of the defendants' submissions (£310,000 or, as the case may be, £247,002) simply needs to be reduced by 10 per cent; if the chance is assessed at less than 90 per cent, the reduction will be greater.

521. This last part of the seventh issue does not arise given my finding that there was no Applicable Insurance Claim. But if it did arise, I would decide as follows.

522. First, there could be no award by this court of Deferred Consideration recoverable as a debt, other than by reference to the small amount of actual steam actually supplied, because the insurers did not endorse any particular figure as the amount of heat usage covered by the insurance claim during the relevant period. For that reason, I reject the defendants' primary claim that they are entitled to £310,000 by way of Deferred Consideration.

523. Secondly, however, the defendants are entitled to maintain their secondary claim for breach of the implied term that Equitix would use reasonable diligence in seeking to agree with or secure a determination by the insurers as to the amount of notional heat usage during the period covered by the Applicable Insurance Claim.

524. If the issue arose, I would decide that Equitix was in breach of the implied term. I do not have evidence that Equitix used reasonable diligence to elicit the required agreement or determination from insurers. The amount of £600,000 which Equitix attributes to the business interruption part of the insurance payout for the 106 days (or 99 days, deducting the excess) is not broken by reference to any specific amount of heat usage agreed with or determined by insurers.

525. Indeed, Equitix did not seriously contend that it had complied with or sought to comply with the implied term suggested by the defendants. They concentrated on their mainly unsuccessful argument that no term should be implied at all. I therefore move on to consider the defendants' claim for damages for the lost chance to earn Deferred Consideration, as a result of Equitix's breach of the implied term.

526. I accept the defendants' submissions to the effect that, if the insurers had been asked to agree or determine a notional amount of heat usage, they would have complied with the request. They behaved in a pragmatic and cooperative way when deciding to what extent to accept liability for the claim, as discussed above.

527. It is very likely that they would have cooperated if Equitix had explained that it believed it had a duty to secure agreement, or a determination, in relation to the notional amount

of heat usage over the claim period. I would not put the probability as high as the 90 per cent suggested by the defendants, but I would accept that the probability was as high as 80 per cent.

528. I am also prepared to accept Mr Botterill's calculation method, rough and ready (and self-serving) though it was, as an approximation of what figure the insurers would have been likely to endorse. If Equitix had engaged with insurers in the same exercise, they too would have calculated the notional heat usage figure using something like Mr Botterill's methodology, which would have suited their purpose just as it suited Mr Botterill's.

529. I think it very likely insurers would have accepted it. I therefore apply the 80 per cent chance to the figure of £247,002 calculated by Mr Botterill. The resulting figure is 20 per cent less than £247,002, namely £197,602.60. That is the amount of damages I would have awarded to the defendants, if I had found that Equitix made an Applicable Insurance Claim. As it is, I make no award.

Issue 8: Counterclaim; Deferred Consideration; Adjusted Base Payments

530. The eighth issue I am asked to decide in this case is whether, separately from the amounts counterclaimed under the seventh issue I have just addressed, the defendants are entitled to an additional payment of £75,000 as Adjusted Base Payment in respect of the first two periods of Deferred Consideration, pursuant to the terms of the side letter of 5 August 2016.

531. The issue is whether the side letter made two extra tranches of £37,500 each payable absolutely, irrespective of whether any Deferred Consideration was earned, as the defendants submit; or whether, as Equitix submits, each of the two tranches would be added to the amount of Deferred Consideration in respect of the two relevant six month periods if, and only if, Adjusted Base Payments became payable in accordance with Schedule 8 to the SSA.

532. Equitix, therefore, submits that the answer to the question is a simple no and observes that although witnesses were asked some questions about what was agreed, the issue turns on the language used in the side letter, read in its context, and not what the parties subjectively thought those words meant or what they intended them to mean.

533. Equitix argues that Mr Cashin and Mr Botterill were still negotiating by email and telephone in the run up to the extended deadline of 5 August 2016 and were some £75,000 apart in their view of what the working capital adjustment component of the purchase price should be. To resolve the impasse, they chose the wording subsequently "papered up" in the side letter, which was:

> "In consideration of the Buyer and the Sellers entering into the Deed of Variation and the completion of the acquisition of the entire issued share capital of the Company by the Buyer it is agreed that the Adjusted Base Payments (as set out in schedule 8 of the Agreement) relating to the first two periods only after Completion shall each be increased by £37,500."

534. Equitix submits, simply, that the side letter did not provide unconditionally for payment of the additional two tranches of £37,500 each. It provided for the issue to be dealt with via the provisions of Schedule 8 to the SSA. The amount of any payments to be made

in respect of the first two semi-annual periods after completion would be increased by £37,500 each if any payments were due.

535. However, Equitix submits, no payments of Deferred Consideration fell due by way of Adjusted Base Payment under Schedule 8. By paragraph 2.4.1(c) of Schedule 8, where Gaia is not entitled to the GMO payment from Greenergy or does not receive the proceeds of an Applicable Insurance Claim, no Adjusted Base Payment is payable.

536. Equitix submits that such was the position here. Gaia did not become entitled to the GMO payment from Greenergy for either of the two six month periods in question (1 January to 30 June and 1 July to 31 December 2016). Nor did it make an Applicable Insurance Claim. Therefore, Equitix submits, neither of the two tranches of £37,500 became payable.

537. This also accords, says Equitix, with what Mr Cashin said was the commercial logic of the side letter agreement: that the two additional tranches of £37,500 each would be "earned" by the defendants and payable out of the future profits of Gaia following completion. That is, indeed, the logic of the whole edifice of the Schedule 8 Deferred Consideration provisions.

538. Equitix accepts, however, that if the court decides that the defendants did become entitled to an Adjusted Base Payment in respect of the first of the two six month periods, i.e. on the basis that there was, contrary to Equitix's primary case, an Applicable Insurance Claim, then the sum of £37,500 would fall to be added to the amount of the Adjusted Base Payment to which the defendants were entitled in respect of that period.

539. The same would not be true, says Equitix, of the second additional tranche of £37,500, since on no view did any Applicable Insurance Claim cover the period of that second six month period. In respect of that second six month period, even on the defendants' case, there were no GMO payments and no Applicable Insurance Claim. Accordingly, paragraph 2.4.1(c) of Schedule 8 applied and so no Adjusted Base Payment was payable to which the £37,500 could be added.

540. The defendants relied on witness evidence and pre-side letter emails to support its interpretation of the side letter: that the two tranches of £37,500 each would become payable irrespective of whether Deferred Consideration was payable in respect of those two Periods. They contended that Mr Botterill's written evidence that the £75,000 was "part of the purchase price" went unchallenged.

541. The defendants also relied on Mr Cashin's emailed statement that the issue was not whether Equitix's fund investment committee would agree to pay the extra £75,000 but "the time it would take to get" the £75,000; and on his use of the word "it" in an email of 4 August 2016 in which he wrote: "I think we should try again on the phone to think of how to fit it into the structure".

542. The final email in the chain that day from Mr Botterill, said the defendants, showed that there was already an agreement to pay an additional £75,000 unconditionally. Mr Botterill in that email accepted a proposal he and Mr Cashin had discussed by telephone "to enhance the next two earn out payment [sic] by £37,500 on each payment, aggregating £75,000 in total, to be papered up in a side letter".

543. The defendants also assert that a relevant part of the factual matrix is the shared assumption, at that time, that some Deferred Consideration would be payable. It was not in the mind of either party at the time (despite the recent tube failure in boiler 2, of which little or nothing was then known to Mr Cashin) that no Deferred Consideration at all would be payable.

544. The defendants also point out that the side letter does not include words making payment of the two tranches conditional on Deferred Consideration being payable in respect of the first two Periods. The next two tranches were merely the vehicle by which the parties chose to make the £75,000 was to be paid to the defendants, they argue. The two tranches of £37,500 each would therefore be payable even if the Deferred Consideration in each case was nil.

545. Finally, the defendants submit based on their previous arguments that there was an Applicable Insurance Claim and that Deferred Consideration was payable under Schedule 8 for the first of the two Periods; therefore, at least, the first tranche of £37,500 must be due even if, contrary to their submissions on the eighth issue, the second tranche is not payable.

546. Turning to my reasoning and conclusions on this issue, I start with the commercial purpose of the side letter. Clearly, it was to add two tranches of £37,500 each to the amount of consideration; but the issue is whether they were to be unconditionally payable or whether each had to be earned as Deferred Consideration.

547. I agree that the subjective intent of the parties is not relevant, nor their opinion of what the words used in the side letter conveyed. The likelihood is that Mr Botterill thought the payments were to be unconditional, while Mr Cashin thought they had to be earned as Deferred Consideration to become payable. This difference of view does not help me or take the matter further.

548. Both parties probably expected Deferred Consideration to become payable. That point cuts both ways. It indicates that Equitix would expect to pay the two tranches and might not trouble to insist on them being conditional on Gaia's financial fortunes. But it also indicates that the defendants would be relatively confident that they would receive the two tranches even if they had to be earned and to become, in Mr Botterill's words in his email, "earn out payment[s]".

549. The use of the Schedule 8 structure and payment mechanism to accommodate the two extra payments is also not conclusive either way. It could be, as the defendants say, a convenient vehicle to determine the timing of the payments unconditionally; or it could indicate the conditionality of entitlement that is in general the hallmark of the Schedule 8 provisions.

550. One must therefore look closely at the actual words used in the side letter: it was "agreed that the Adjusted Base Payments (as set out in schedule 8 of the Agreement) relating to the first two periods only after Completion shall each be increased by £37,500."

551. Applying those words, I start with the definition of "Base Payment" in Schedule 8. It is simply £759,496. The normal adjustment exercise then has to be carried out to determine the "Adjusted Base Payment", as defined; it "has the meaning given in

paragraph 2.4 below". Once that exercise has been carried out, the resulting figure for the first two Periods must be "increased by £37,500".

552. The issue, in my judgment, boils down to the interaction of the words "increased by" and the final words of paragraph 2.4.1(c): "no Adjusted Base Payment will be payable…". If no Adjusted Base Payment is payable, can the amount be "increased"? Equitix would say not, for there is nothing to increase. The defendants say that it can be. The increase is, they say, from zero to £37,500.

553. The latter interpretation is not unarguable, but in the end I reject it because according to the side letter what is being "increased" is "the Adjusted Base Payments (as set out in schedule 8 of the Agreement)". If no Adjusted Base Payment is payable, it would not be an increase to convert it from zero to 37,500; it would be to make it payable when otherwise it is not.

554. That interpretation does not entail a necessary violation of the commercial purpose of the side letter. It means that receipt of the two payments would depend on some Adjusted Base Payment becoming payable for each of the first two Periods; but that is far from being a commercially absurd proposition. The defendants themselves expected it to happen.

555. It follows that the second tranche is not payable. The first tranche would have been added to the damages recoverable for breach of the implied term, if I had found that there was an Applicable Insurance Claim; since, but for the breach, the defendants would have been entitled to some Deferred Consideration in the first of the two Periods concerned. However, since I have decided there was no Applicable Insurance Claim, the defendants cannot recover the first £37,500.

Issue 9: Counterclaim; Deferred Consideration; Third Party Recovery

556. The ninth and final issue is in two parts. The first is whether the defendants are entitled to any Deferred Consideration in relation to GMO and/or damages recovered and/or recoverable by Gaia against Greenergy; and if so, what is the quantum of the defendants' entitlement? It turns out that I am not now asked to decide that issue, and I say no more about it.

557. The second part of the ninth issue remains live. It is whether the defendants are entitled to a declaration that, in the event of any judgment or settlement of the dispute between Gaia and Greenergy including, reflecting or taking into account monies payable by Greenergy to Gaia in relation to GMO (or equivalent sums as damages for breach of contract), the defendants are or will be entitled to Deferred Consideration pursuant to the SSA.

558. Equitix submits that such a declaration would not be appropriate because it would prejudge a dispute which might or might not arise in the future, the outcome of which would depend on all sorts of factual details and contingencies which would have to be resolved in order to determine whether the defendants had any such entitlement.

559. For example, Equitix pointed out, its obligation to make Deferred Consideration Payments under Schedule 8 of the SSA is "subject to and conditional upon [Gaia] being

able to lawfully distribute or lend sufficient cash funds to the Buyer to cover the payment of the Buyer of each such Adjusted Base Payment" (paragraph 2.2).

560. Equitix contended that if a dispute arises in future between it and the defendants as a result of a judgment or settlement as between Gaia (or Equitix) and Greenergy, that dispute, which has not yet arisen, can be resolved then in the ordinary way. Any entitlement of the defendants to Deferred Consideration under Schedule 8 to the SSA will only then have crystallised. It has not yet. At best, a declaration could simply repeat what Schedule 8 provides.

561. Further, if a settlement or a judgment as between Gaia and Greenergy included an element of damages payable to Gaia for breach of contract by Greenergy, it is difficult to see, conceptually, how that could generate an automatic entitlement of the defendants to any payment from Equitix under Schedule 8 to the SSA. For that additional reason, the declaration sought is over-ambitious and inappropriate.

562. The defendants observe that the exact words of the declaration they seek are:

> "…in the event of any judgment or settlement of the Gaia / Greenergy dispute including, reflecting or taking into account monies payable by Greenergy to Gaia in relation to GMO (or equivalent sums as damages for breach of contract), the Defendants are or will be entitled to payment of Deferred Consideration."

563. They submit, first, that the applicable principles relevant to the exercise of the court's discretion to grant declaratory relief are those stated by Aikens LJ in *Rolls-Royce plc v Unite the Union* [2009] EWCA Civ 387, at [120].

564. There must be a real and present dispute between the parties before the court as to the existence or extent of a legal right between them; but the claimant need not have a present cause of action against the defendant. The court's determination of the issues concerning the legal right must affect both parties. The court then asks itself whether declaratory relief is the most effective way of resolving the issues raised.

565. The defendants submit that those tests are met here. There is a real and present dispute about the defendants' entitlement to Deferred Consideration based on the Claimant's receipt of GMO or equivalent sums, and about the extent to which the Claimant has acted in accordance with its duty to mitigate loss with regard to the dispute between Gaia and Greenergy.

566. The defendants say that determination or settlement of the dispute between Gaia and Greenergy may generate further entitlement on the defendants' part to Deferred Consideration based on receipt of money by Gaia from Greenergy. They submit that a declaration is the most effective way of resolving the issue.

567. As I understand their submissions, the defendants commend to the court the course of granting the declaration sought as the best way to engage with, though not to determine, in a pre-emptive manner as between the parties before the court (not including Gaia or Greenergy).

568. I do not think this is a case where the court should grant the declaration sought, or any declaration relating to the dispute, such as it is, between Gaia and Greenergy. Neither of those parties is before the court. There is no indication of imminent litigation. If a

claim were formulated, it is not clear to me which party would be claimant and which would be defendant. There could well be a counterclaim as well as a claim.

569. I accept that it is likely, if it came to litigation, that Gaia would claim entitlement to GMO payments or damages for breach of an obligation to make such payments. Whether a judgment or settlement in respect of that matter would generate entitlement in the defendants to Deferred Consideration would depend on applying the provisions of Schedule 8 to the SSA.

570. There is currently no factual material before the court to perform that exercise. The declaration sought would have to be qualified and modified so that instead of saying the defendants "are or will become entitled to Deferred Consideration", words would have to be added to the effect: "if and to the extent to which Schedule 8 to the SSA so provides".

571. A declaration in that form would assist neither the parties to this action, nor Gaia and Greenergy, nor a judge or arbitrator adjudicating in a hypothetical litigious proceeding between Gaia and Greenergy, nor anyone else that I can think of. I can see no useful purpose in granting the declaration sought and I decline to do so.

Conclusion; Disposal

572. For all those reasons, the claim succeeds and there will be judgment for the claimants on the claim in the sum of £11 million. The counterclaim fails and is dismissed. If I had found that there was an Applicable Insurance Claim, I would have awarded the defendants £197,602.60 (damages for breach of the implied term), plus £37,500 (the additional first tranche), making £235,102.60.

573. Equitix submitted in its opening submissions that it accepted the liability cap of £11 million, "subject to the counterclaim". However, I do not accept that liability cap falls to be applied after, rather than before, bringing into account any award in favour of the defendants on the counterclaim.

574. The liability cap applies to claims, such as the one Equitix has brought in these proceedings. It does not, in my judgment, operate by first deducting, before applying the cap, the amount awarded under a counterclaim for Deferred Consideration, which is part of the contract price; nor the amount of any damages for breach of an implied term which denied the defendants the chance of earning that Deferred Consideration.

575. Therefore, if I had found that there was an Applicable Insurance Claim and if I had accordingly awarded the defendants £235,102.60 on the counterclaim, I would have deducted that amount from the capped figure of £11 million and awarded Equitix instead a net £10,764.897.40.

576. Given the findings I have made, however, I simply give judgment in favour of Equitix in the amount of £11 million and dismiss the counterclaim. I will adjourn the judgment hand down hearing and hear the parties in relation to the form of my order and any other consequential matters, including interest, costs and permission to appeal.

577. I conclude by expressing my sincere thanks to counsel and everyone else concerned for the indispensable help I received from them to enable me to decide this difficult case.