

Report of the Small-Scale Hydro Plant and Machinery Review

January 2020

FOREWORD

I am pleased to outline the findings of my review of the present law governing the rating valuation of plant and machinery for small-scale hydropower schemes in Scotland.

The terms of reference for the review are:

- to consider the present law governing rating valuation of plant and machinery for small hydropower schemes in Scotland; and
- to recommend any legislative changes required in respect of the extent of rateable property for such schemes, having regard to the financial, technical and other considerations involved.

The 2017 Revaluation saw rateable values for small hydro increase significantly. The hydro sector are concerned that the rateable values for small hydro - expressed as a percentage of gross turnover – are significantly higher than for comparable renewable energy producers such as small onshore wind and standalone solar energy.

From 1 April 2018, the Scottish Government, with the endorsement of the British Hydropower Association, introduced an interim 60 per cent relief for non-domestic rates bills of hydro generators. Whilst the hydro sector welcomed this, they see it as a short-term relief and are seeking a more long-term solution via amendments to the plant and machinery regulations and/or changes to the application of the rating valuation methodology to the small hydro sector.

Although the terms of reference of the review are to consider and recommend if any legislative changes are justified in respect of the extent of rateable property for small hydro schemes, it soon became apparent that hydro sector representatives were not only concerned about the application of the plant and machinery regulations but were also uneasy of the rating valuation methodology applied to small-scale hydro. Therefore, several meetings were dedicated to considering in detail the evidence available to assessors in determining valuations including discussion over which plant and machinery was considered rateable in the valuation process.

Given the failure of the group to unanimously agree on several issues, my report focuses on the views expressed by the hydro sector and the Scottish assessors and seeks to set out for consideration viable options available to Scottish Ministers in order to ensure and maintain the principles of fairness, transparency and credibility within the rating process as it is applied to the hydro sector and to the wider non-domestic rating environment.

Therefore, my report identifies concerns and options and does not seek to simply identify areas of agreement. Given that on numerous occasions the group was unable to agree a consensus opinion, this report attempts to avoid any editorial judgement by myself or any other members of the group on the merits of each argument and instead seeks to provide a summary of the discussion over the seven

meetings. I hope that the views of all parties are objectively and transparently captured in the report.

A recurring issue in the discussions of the group was the impact of the State Aid regulations which apply to forms of public assistance given on a discretionary basis and which have the potential to distort competition and affect trade. Many of the avenues explored by the group were identified as likely to be subject to the same restrictions given the selective nature of any intervention. In coming to the conclusion in this report, State Aid considerations have been a recurring and material factor. By focussing on a single sector of the economy, all options available to the group are understood to have state aid implications.

SUMMARY

1. The hydro sector suggests that the following changes to plant and machinery legislation and to the application of the rating valuation methodology should be considered:
 - a. “Tools of the trade” exemption to be built into the plant and machinery legislation for small hydro schemes or
 - b. Pipeline and all pipeline works for small hydro should be exempt in the plant and machinery legislation.
 - c. Scottish assessors to review the application of the Receipts and Expenditure (R&E) method of valuation – in particular the “divisible balance calculation” directly impacted by which components of plant and machinery are considered rateable.
 - d. Prescription of rateable values at a fixed 10% percentage of annual turnover.

Most of the group agreed that the above-mentioned changes to the plant and machinery regulations specifically for small scale hydro were not justified or required. The group acknowledges that the concerns of hydro sector were focussed primarily on the divisible balance calculation in the receipts and expenditure valuation model which directly impacts which components of plant and machinery are considered rateable. Such aspects are ultimately matters of the application of the valuation process which are subject to an independent appeals system and which may be resolved by discussion between the Scottish assessors and ratepayers or in the end by litigation. Prescription of rateable values for small hydro heritages was not considered by the Group.

2. A frequent issue for the group was the complexity of the non-domestic rates scheme including a lack of transparency regarding both the evidence provided by scheme occupiers as ratepayers and by assessors in calculating rateable values. The group supports the recommendations of the Barclay Review of Non-Domestic Rates that the rating system needs to be more transparent and information flows between stakeholders must improve. Those reforms are expected to have a positive impact on the information available to assessors and the hydro sector and help to ensure that more hydro subjects are valued accurately. It is encouraging to note that such information flows and

engagement between assessors and the hydro sector has recently improved significantly.

3. The group noted that on occasions even the most basic of discussions and exchanges of information did not take place before expensive and currently inconclusive litigation was considered necessary. It is not certain that the final outcome of the Old Faskally appeals will have a bearing on the prosecution of other 2010 roll cases where appeals have been lodged nor be relied upon as a precedent in similar 2017 roll appeals. It may well be that if ratepayers and assessors cannot agree the outstanding 2010 and 2017 roll rating assessments - and I strongly hope that open, transparent and meaningful negotiations ensue between the parties - then further litigation may be the only resort to determine the valuation approach – in particular in respect of the outstanding 2017 appeals.
4. The group agrees that the assessors are correctly applying the plant and machinery regulations as they stand. Most of the group agreed that the plant and machinery, or indeed lands and heritages, for hydro are not materially different to equivalent plant and machinery operated in other business sectors. While the hydro sector representatives dissented from this position, the group did not agree that changes to the plant and machinery regulations specifically for small scale hydro were justified or required.
5. The group agrees that it is appropriate for small scale hydro to be assessed using the Receipts and Expenditure method – although the hydro sector is very concerned about the levels of value arrived at by the application of this rating methodology. There were questions about the extent to which the method was sufficiently flexible to accommodate subjects which are otherwise uneconomic in the absence of a Government subsidy.
6. Despite agreement that the R&E approach was correct, for context the group discussed the impact of adopting the Contractors Principle. The group noted that the methodology would deliver broadly comparable rateable values to that generated by the R&E approach. This correlation is not unexpected given that both methods ultimately reflect the capital build costs incurred.
7. By design, hydro electricity generation plant is heavily dependent on civil engineering works which are typically rateable as either plant and machinery or as lands and heritages in their own right. Comparator technologies such as wind and solar power do not require comparable levels of civil engineering infrastructure which typically results in relatively lower rateable values. The group agree that the outcome of correctly applying the regulations is resulting in adverse outcomes for some elements of the small-scale hydro sector and that concerns regarding the viability of parts of the existing hydro sector have merit. The group therefore concludes that elements of the existing sector will struggle – at least in the short term – without further public sector support. In addition, future investment may be undermined by the existing rates regime although, non-domestic rates is only one factor that may impact that situation and other concerns may have a more material impact.

8. The nature of any ongoing public support is a matter for Scottish Government to determine but reflecting on the options considered by the review group; the group does not believe that doing nothing is a sustainable or fair option for parts of the hydro sector.
9. The group noted that non-domestic rating valuation does not usually lend itself to short term policy solutions, but reliefs provide a flexible route to address anomalies and undesirable or unintended outcomes to specific businesses to ensure a fair burden of rates falls on all sectors of trade and commerce. The hydro representatives expressed concerns that reliefs were considered to be temporary and while the current relief was welcome, it was seen as a short-term fix as opposed to a sustainable long-term solution. In addition, the industry noted that funders of the small-scale hydro schemes currently exclude the impact of reliefs from their assessment of financial viability thus negating the impact of such measures on long term funding.
10. While a relief may be an imperfect solution, it would provide some support for investors in new plant, the majority view on the group was that a reasonably long-term relief could represent a viable solution to deliver a more affordable rates outcome for the sector whilst maintaining fairness with other ratepayers.

I could not have completed this review without the considerable time, expertise and insight provided by my colleagues in the review group. I wish to thank each of those individuals for the constructive way they engaged, shared ideas and strongly set out their viewpoints in a positive and respectful manner despite the obvious differences of opinions, perspectives and possible solutions put forward.

The group has been exceptionally well served by officials in the Scottish Government who have provided extensive secretariat support and helpful advice throughout the period of the review.

Professor David Tretton FRICS FIRRV

Chartered Surveyor

RICS Registered Valuer

Chair, Small-Scale Hydro Review of Plant and Machinery Group (Scotland)

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Introduction

1. The Barclay Review of Non-Domestic Rates¹ was established to deliver a rates system designed to better support business growth, long term investment and reflect changing market places. The subsequent recommendations of the Barclay Review include measures to support growth, to improve administration of the system and to increase fairness.

2. On 14 December 2017, the Scottish Government published a response to the Barclay Review in an implementation plan² confirming acceptance of the majority of the review recommendations and setting out details of those measures that would be implemented administratively and the others that require the Government to bring forward primary legislation.

3. As part of the implementation plan, Scottish Ministers accepted Recommendation 6 that “There should be a separate review of Plant and Machinery valuations with particular focus on renewable energy sector valuations and statutory improvements to property including sprinkler systems.”

4. In the first instance Scottish Government committed to ‘fast track’ an external review of plant and machinery rateability specifically for the hydropower sector (less than 5MW of capacity), with the following terms of reference:

- to consider the present law governing rating valuation of plant and machinery for hydropower schemes in Scotland; and
- to recommend any legislative changes required in respect of the extent of rateable property for such schemes, having regard to the financial, technical and other considerations involved.

5. From 1 April 2018, the Scottish Government, with the support of the British Hydropower Association, introduced an interim 60 per cent relief for non-domestic rates bills of small-scale hydro generators while the review took place. This relief will remain in place, at least, until the findings of this review group are concluded and implemented.

Membership

6. In January 2018, Professor David Tretton FRICS FIRRV was appointed to chair the review group supported by Kenny Hunter (British Hydropower Association), Alastair Kirkwood (Assessor for Tayside) and Professor Fiona Grant (Heriot-Watt University) with secretariat and advice provided by Scottish Government officials. An

¹ <https://www.gov.scot/publications/report-barclay-review-non-domestic-rates/>

² <https://www2.gov.scot/Resource/0052/00529284.pdf>

inception meeting was held on 08 February 2018 and the first meeting of the group took place on 18 April 2018. The group met seven times including a site visit to hydro sites at Remony and Acharn. The review group would like to formally record their thanks to Major James Duncan Miller for hosting the group at those visits.

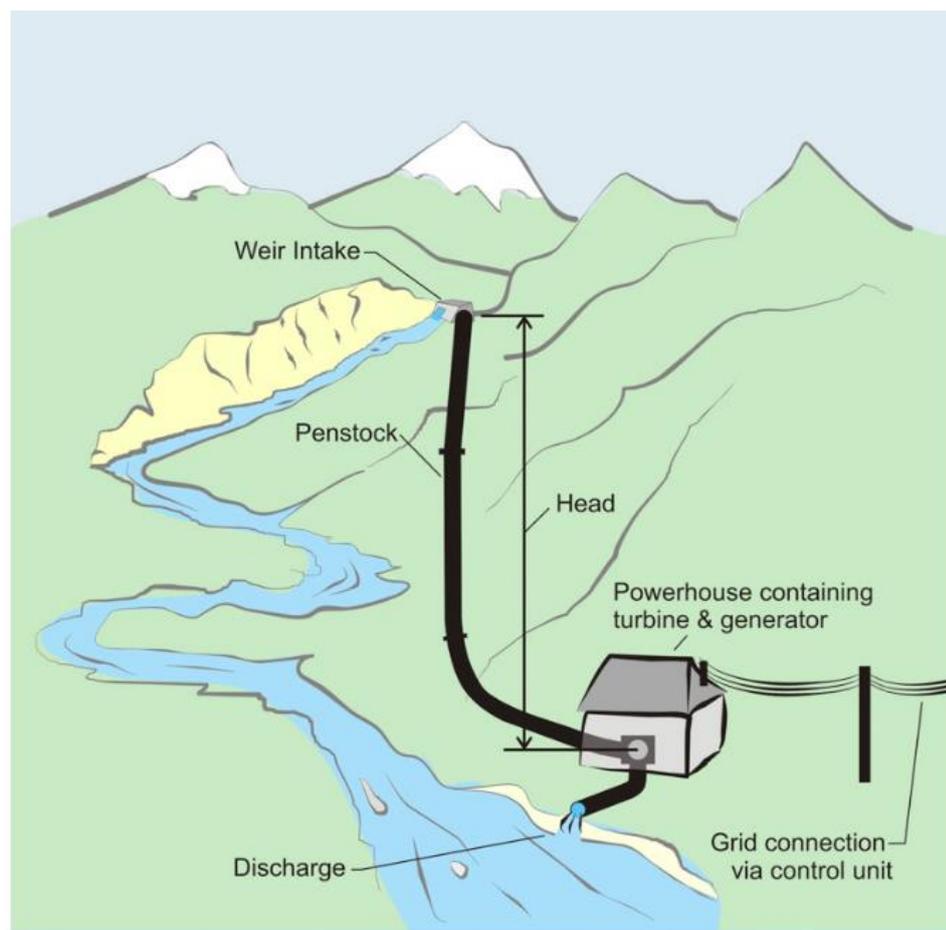
7. At the third meeting, the group agreed to expand those attending to include Stephen Hutt (Green Highland Renewables) and Bill Gillies (Assessor for Highland & Western Isles) for their specific expertise on the issues being discussed.

Small Scale Hydro Electricity – Infrastructure

8. Small-scale hydropower has long been recognised by successive governments and energy experts as being one of the most long term cost-effective and reliable energy technologies to be considered for providing clean electricity generation. A typical run of river hydro scheme (without storage) generates electricity when water is diverted from a river through an intake at a weir. The water descends through a network of pipes and penstocks before driving a turbine which generates the electricity.

9. The main elements of a small-scale hydro scheme are shown below and includes the following process:

- Water is taken from the river by diverting it through an intake at a weir.
- In medium or high-head installations water may first be carried horizontally to an intake chamber by a small canal or 'leat'.
- The intake chamber is usually protected by a screen which filters out water-borne debris.
- A pressurised pipe, or 'penstock', conveys the water from the intake chamber to the turbine, which is enclosed in the powerhouse together with the generator and control equipment.
- After leaving the turbine, the water discharges down a 'tailrace' back into the river.



Outline Economics of Renewable Energy Generation and Government Incentives

10. Unlike traditional forms of electricity generation based upon thermal combustion, low carbon sources of electricity are characterised by relatively low operating costs with significant upfront capital build costs. In the case of hydro, the ARUP report³ used to inform decisions on Feed in Tariff (FIT) levels suggested capital build cost of around £2.5-£4.1 million per Megawatt (MW), while the Scottish Assessors Association (SAA) practice note assumes a cost of £4.9 million per MW. Meanwhile the marginal operating cost of generating each additional unit of electricity is minimal.

11. Similarly, while traditional thermal generation (including low carbon sources such as biomass) typically involves a conscious decision whether to generate electricity or not (based in part on the price achievable), renewable electricity essentially generates by default when the weather conditions are right with no relationship with the electricity price.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/566567/BEIS_Electricity_Generation_Cost_Report.pdf

12. This high capital cost and inability to respond to market price signals undermines the investment case for low carbon generation sources. In response, successive UK Governments have sought to incentivise renewable (and latterly low carbon) generation through subsidy mechanisms known as the Renewable Obligation Certificate (ROC), the Feed-in-Tariff (FIT) and now the Contracts for Difference Feed in Tariff (CfD).

13. The ROC system involved an obligation being placed on electricity suppliers to source an increasing volume of electricity from renewable sources. Qualifying Renewable generators are awarded a fixed number of certificates for each unit of generation which, when redeemed to suppliers, operated to provide renewable generators with a form of generic subsidy over and above the prevailing electricity price. The FIT system was introduced on 1 April 2010 and effectively removed any market price volatility by providing an inflation adjusted (indexed linked) fixed price per unit of generation. The CfD system is a complex derivation of the FIT system which protects public finances at times of high wholesale electricity costs. In all three cases, the costs of the support mechanisms are effectively funded through a levy on suppliers which are passed on to consumers.

14. The level of subsidy offered to each technology was based upon a 'Levelised Cost of Energy' calculation. A levelised cost approach compares the average lifetime generation cost of all forms of generation taking into account the different build and operating costs of different technologies. This estimate is then adjusted to reflect a technology specific hurdle rate⁴ and the capacity required to meet the UK's renewable energy targets to determine the level of subsidy to be offered.

15. The UK Government's levelised cost calculations do not take any account of the non-domestic rates liability as part of the operating cost assessment⁵. As a consequence, the group discussed the omission of non-domestic rates from the subsidy calculation, which effectively means that the stated "hurdle" rates may not actually be delivered by the policy.

16. These subsidy regimes are currently exempt from State Aid considerations as 'notified schemes' under the General Block Exemption Regulations. However, any decisions to supplement the level of subsidy, for example to correct for any perceived errors in subsidy levels, would be considered a State Aid intervention.

⁴ A hurdle rate is the minimum rate of return on a project or investment required by a manager or investor.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/566718/Arup_Renewable_Generation_Cost_Report.pdf;
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/456187/DECC_Small-Scale_Generation_Costs_Update_FINAL.PDF

17. The levels of support available through the ROC and FIT regime are outlined in the Valuation of Conventional Hydro Generators Practice Note attached at Annex E.

18. In addition to the financial subsidy per unit generated, in some cases the rateable occupier may also benefit from the savings associated with using the electricity being generated.

19. Due to greater than anticipated uptake of the Feed in Tariff - primarily solar photovoltaic installations - the UK Government introduced a Levy Control Framework in March 2011 to help mitigate the impact on consumer bills. Following a review of the support mechanisms in 2015, the UK Government decided that expenditure on new tariffs would cease in March 2019. The review of the Feed in Tariffs⁶ was not published until 17 December 2015 and therefore was not applicable as at 1 April 2015, which was the tone date for the 2017 Revaluation.

Rating of Non-Domestic Property – Background

Rating Principles

20. The non-domestic rating system in Scotland has its roots in the Lands Valuation (Scotland) Act 1854 which establishes the statutory basis that rating assessment should be the annual rental value⁷ of all lands and heritages as defined in the Act⁸.

21. The statutory definition of Net Annual Value (which unless modified by statute equates to Rateable Value) is:

“...the rent at which the lands and heritages might reasonably be expected to let from year to year if no grassum or consideration other than the rent were payable in respect of the lease and if the tenant undertook to pay all rates and to bear the cost of the repairs and insurance and other expenses, if any, necessary to maintain the lands and heritages in a state to command that rent.”⁹

22. Despite numerous changes to the system since 1854, this fundamental philosophy based upon an annual rental value has remained unchanged. Most recently, the Report of the Barclay Review of Non-Domestic rates “concluded that, on balance, a property tax system based on rateable values, as is currently in place in Scotland, best fits the principles [of Fairness, Consistency, Transparency, Simplicity and Accountability] set out above”.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/487300/FITs_Review_Govt_response_Final.pdf

⁷ Section 1 - The Lands Valuation (Scotland) Act 1854

⁸ Section 42 - The Lands Valuation (Scotland) Act 1854

⁹ Section 6(8) – the Valuation and Rating (Scotland) Act 1956

23. The fact that parts of the original 1854 Act remain in use today is testament to the efficient and robust nature of the rating local taxation system. The strengths of the system are generally perceived to be that tax avoidance is difficult to achieve as the subjects to be assessed are both immovable and readily identifiable, together with high tax collection levels and relatively low administration and collection costs as compared to other tax systems.

24. The design of the system is based upon the inherent principle that all occupiers pay a share of the rating tax burden in proportion to the annual rental value of the lands and heritages that they occupy. Individual property rental values would be expected to reflect site specific characteristics such as size and location, with one notable exception outlined in paragraph 56. Whilst there is typically no direct link between the rateable value of a property and the level of turnover or income generated by the occupier of that property, the Receipts and Expenditure methodology considers turnover evidence as part of the valuation calculation. The valuation of hydro schemes uses the receipts and expenditure methodology (see paragraph 34).

Revaluations

25. The rateable values of all non-domestic properties are re-assessed periodically by independent assessors (usually every five years but moving to every three years with effect from 2022) – this is referred to as a revaluation. The rateable value of a property is generally based upon its estimated open market value on the ‘tone date’ were it to be vacant and to let.

26. The ‘tone date’, also known as the antecedent valuation date, is 1 April two years before the date of the revaluation. For the 2017 revaluation (the most recent revaluation) this was 1 April 2015. The tone date determines the level of value to be applied throughout the period of the revaluation (for the 2017 revaluation that period is 1 April 2017 to 31 March 2022) by the assessors. Subject to the successful passage of the Non-Domestic Rates (Scotland) Bill, revaluations in Scotland will function on a three year cycle from 2022. Then, from the 2025 Revaluation onwards, the system in Scotland will operate on the basis of a one-year tone date i.e. 1 April 2024 will be the tone date for the revaluation which takes place on 1 April 2025.

27. A revaluation results in the preparation of a new rating roll which contains updated values for existing rateable properties and initial rateable values for new rateable properties in an assessor’s valuation area. Following a revaluation new values will generally remain unchanged until the next revaluation, unless the property is altered, or other changes take place. This new roll comes into force on the first day of the revaluation. For the 2017 revaluation, there were 233,386 entries in the roll on 1 April 2017 with a total rateable value of £7,358 million.

28. Revaluations are intended to redistribute the rateable value tax base to reflect shifts in market rental values that have taken place since the last revaluation. They

are not intended to increase the overall rating tax burden and are generally revenue-neutral with any increase in aggregate rateable value being accompanied by a fall in the tax rate (known as ‘the poundage’). In 2017, the Scottish Government opted to forego a revenue neutral revaluation by matching the English non-domestic rates multiplier. According to data from the valuation roll, this decision reduced income from non-domestic rates by £88 million a year relative to a revenue neutral revaluation.

Rating Valuation Methods

29. There are three recognised main valuation methods upon which the valuation for rating purposes may be undertaken. These are the comparative method, the contractor’s method (now known as the contractor’s basis) and the revenue method (now known as the receipts and expenditure method).

The comparative method¹⁰

30. The most commonly used method, the comparative method is based upon the premise that open market rental evidence is the best indication of the annual rental value that a subject could be expected to achieve. Where sufficient comparable property rental evidence is available, that evidence can be appropriately analysed and adjusted to reflect the individual nature of the property under consideration in line with the statutory requirements. Where this method of valuation is possible – and there is significant valid rental evidence - it will generally provide an accurate guide to annual value.

The contractor’s method¹¹

31. The contractor’s method of valuation (or contractor’s basis of valuation) is frequently used when there is insufficient rental information for the comparative method to be employed. The overall aim of the contractor’s basis is to arrive at the effective capital value primarily through considering the cost of providing the building, and then converting that cost into an annual rental value.

32. The theory underpinning the method is that the rental value of an existing property can be ascertained by considering what it would cost a hypothetical tenant to create an equivalent property for their own occupation. In this situation the rental value of the property will be related to the annual equivalent of the capital cost of building such a property, including provision of the site.

33. The method seeks to estimate the replacement cost of the property including the land value and any rateable plant and machinery and applies a statutory decapitalisation rate in order to generate an annualised cost/rateable value.

¹⁰ <https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/valuation/comparable-evidence-in-property-valuation-1st-edition-rics.pdf>

¹¹ <https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/valuation/the-contractors-basis-of-valuation-for-rating-purposes-2nd-edition-rics.pdf>

The receipts and expenditure method (R&E) (formerly known as the revenue method).¹²

34. A third valuation method can also be employed when there is insufficient comparative rental evidence available. The method seeks to derive a net annual value figure by calculating the gross income receipts that can be derived from occupation of the property, including grants and subsidies, adjusted to reflect the expenditure necessary to derive that income. The net figure, known as the divisible balance, is the sum available to be shared between the landlord and the tenant.

35. The Divisible Balance comprises two main elements:

- (i) The Tenant's Share – to provide a return on any tenant's capital employed and a reward to the tenant for his venture reflecting the extent of the risk and the need for profit. This is deducted from the Divisible Balance to leave:
- (ii) The Landlord's Share, i.e. the rent payable (which then determines the rateable value).

36. It is considered particularly appropriate to use the R & E method where receipts are derived from a specific monopoly attaching to the property. Monopoly value may be derived from law, e.g. by way of licence, or from geographical location or sometimes from a combination of both. Valuations for small hydro are currently derived using the receipts and expenditure method.

Plant and Machinery Regulations

37. Certain elements of plant and machinery have been considered rateable since rating was introduced in Scotland in 1854¹³. The principle is that investment in significant items of plant and machinery, particularly in the civil construction elements of plant and machinery, is no different to investment in buildings and other lands and heritages. As such, this investment should be subject to rating in the same way as buildings.

38. Reflecting changes in the industrial landscape and the development of new technologies, several reviews have been established to consider any changes necessary to accommodate changing circumstances. A full history of the various changes to the rating of plant and machinery is given within the Wood Committee Report 1993¹⁴.

¹² The Receipts and Expenditure Method of Valuation – A guidance Note by the Joint Professional Rating Forum 1997 S3.5.

¹³ S42 of the Lands Valuation Scotland Act 1854 – the definition of Lands and Heritages included "... all Machinery fixed or attached to any Lands or Heritages..."

¹⁴ The Rating of Plant and Machinery: A Report by the Wood Committee 1993

Wood Committee – Five rules

- The land and everything that forms part of it and is attached to it should be assessed.
- Process plant and machinery which can fairly be described as 'tools of the trade' should be exempt within certain limits.
- Such plant and machinery which is or is in the nature of a building or structure or performs the function of such should be deemed to be part of the hereditament or subject.
- Service plant or machinery (sometimes 'motive' plant), and items forming part of the infrastructure of the property should be rated.
- Sensible lines must be drawn in the case of plant and machinery which performs both functions which will indicate exactly how much falls to be rated and how much does not.

39. The Plant and Machinery Regulations have evolved over time but have effectively been designed to apply in the form of four distinct classes of plant and machinery. These are broadly stated as:

Class 1 Power: Plant and machinery used or intended to be used mainly or exclusively in connection with the generation, storage, primary transformation or main transmission of power in or on the lands and heritages, together with associated list of accessories.

Class 2 Service Plant: Plant and machinery used or intended to be used in connection with services to the lands and heritages or parts of them (other than those used mainly or exclusively as part of manufacturing operations or trade processes), together with associated list of accessories.

Class 3 Conveyance / Communications / Distribution: A collection of items ranging from railway lines to electricity cables and pipelines.

Class 4 Items that are, or are in the nature of, a building or structure: Two tables (Tables 3 and 4) contain lists of items from which, if the item is considered to be a building or structure, or in the nature of a building or structure, it will be rateable. Note items contained within Table 4 only are further qualified such that the named items are rateable unless they are less than 400 cubic metres and are readily capable of being moved from one site and re-erected in its original state at another without the substantial demolition of any surrounding structure.

40. The various classes within the plant and machinery regulations are not mutually exclusive and each item of plant must be separately tested against each class. The 2000 Regulations prescribe four classes of plant and machinery as lands and heritages. If an item of plant and machinery satisfies the requirements of one or other of the prescribed classes, it is lands and heritages. The approach is sequential

and inclusive¹⁵. An item which is not prescribed as lands and heritages by Class 1 may nonetheless be prescribed as lands and heritages by Class 2, or Class 3, or Class 4. Non-inclusion under one class does not stamp an item as non-rateable - it merely means that it is not prescribed as lands and heritages under that class.

41. In considering items of plant and machinery under the different classes, rating valuers are not constrained by narrow, technical description of items. Rather it is appropriate to apply a wider, non-specialist, application of language to items of plant and machinery. Further, it should be noted that the regulations do not attempt to define plant and machinery by reference to particular industries.¹⁶

Exemptions to the P & M Regulations

42. A small number of exemptions have been built into the plant and machinery regulations over the years. These include, for example, plant and machinery which has micro generation capacity which is exempt from all classes of plant and machinery and “excepted plant and machinery” which means plant and machinery on the lands and heritages used or intended to be used for the generation, storage, transformation or transmission of power, where the power is mainly or exclusively for distribution for sale to consumers is exempted from Class 1 although such plant and machinery could subsequently be considered rateable as being in the nature of a structure or building.

43. For sites which are generating electricity for distribution to consumers, the elements which may be rateable within the heritage are the land, buildings, site improvements (fencing, paths, roads), all works associated with connection to the grid and any foundations. For identical sites generating electricity for a single user (e.g. power to a factory), all elements including the generation facilities will be considered rateable and can thus attract a significantly higher Rateable Value.

44. The group noted that the Wood Committee deemed that all structures should be rateable. The Wood Committee commented “that process plant and machinery which can fairly be described as ‘tools of the trade’ should be exempt within certain limits” but those limits included ‘if they were in the nature of a building or structure’. The second Wood Committee report published in 1999 recommended that a “tools of the trade” exemption should apply to generating plant and machinery belonging to the power generators, although such plant which was in the nature of a building or structure should continue to be rated.

State Aid

45. A recurring issue in the discussions of the group was the impact of the State Aid regulations which apply to forms of public assistance given on a discretionary basis and which have the potential to distort competition and affect trade.

¹⁵ Assessor for Tayside Valuation Joint Board v Old Faskally Farming Company and Others 2016.

¹⁶ Shell Uk Ltd v Assessor for Grampian Valuation Joint Board 2000

46. The current relief granted under The Non-Domestic Rates (Renewable Energy Generation Relief) (Scotland) Regulations 2010, as amended, is subject to State Aid considerations. Many of the avenues explored by the group were also identified as likely to be subject to the same restrictions given the selective nature of any intervention.

47. On 23 August 2018, the UK Government published guidance¹⁷ confirming that, irrespective of the future relationship with the European Union, “The EU state aid rules will be transposed into UK domestic legislation under the European Union (Withdrawal) Act. This will apply to all sectors; and will mirror existing block exemptions as allowed under the current rules, including the Agricultural Block Exemption Regulation, and the Fisheries Block Exemption Regulation.” Recent announcements by the UK Government have been less clear on the future of State Aid but they have not been considered as part of this Review process.

Review Group Deliberations

48. The following summary of the group’s discussions does not seek to simply identify areas of agreement. On numerous occasions the group was unable to agree a consensus opinion and the summary attempts to avoid any editorial judgement on the merits of each argument and instead seeks to provide a flavour of the discussion over the seven meetings. Hyperlinks to the minutes of each meeting are attached in an annex to this report.

Options Considered

49. The group discussed in detail a number of possible options - each with their own pros and cons (including state aid considerations). The four options were:

Do nothing. The group’s remit was to consider the present law and recommend any legislative changes required. If the group considered the concerns of the sector to be unfounded or flawed, the group could conclude that no action was required.

Reliefs. The group noted that non-domestic rating valuation does not usually lend itself to short term policy solutions but reliefs provide a flexible route to address anomalies and undesirable or unintended outcomes. The sector expressed concerns that reliefs were considered to be temporary and while the current relief was welcome, it was seen as a short term fix as opposed to a sustainable long term solution. In addition, the industry noted that funders of hydro schemes exclude the impact of the current relief from their assessment of viability.

¹⁷ <https://www.gov.uk/government/publications/state-aid-if-theres-no-brexit-deal/state-aid-if-theres-no-brexit-deal>

The group noted that non-universal reliefs are subject to State Aid de minimis rules since they confer selective advantage on one, for example, geography, industry or sector. Reliefs are delivered through secondary legislation.

Exemption from the Plant and Machinery Order. The Plant and Machinery order could be amended to exempt some or all of the rateable plant and machinery relating to the hydro sector. The sector were clear that this was their preferred option but the group agreed there would need to be evidence-based grounds to justify such an intervention. In addition, it would be necessary to minimise any risk of unintended consequences for other sectors and maintain fairness between ratepayers.

A non-universal exemption would be subject to State Aid de minimis rules because it would confer selective advantage on one, for example, geography, industry or sector. The group also discussed the impact on harmonisation of legislative differences between UK nations.

De-Rating. The group discussed the option of de-rating which would see everything continuing to be rated but that a percentage reduction is then applied to the subsequent valuation. The group noted that de-rating was used more frequently historically and had effectively been replaced by reliefs in recent years and was very rarely used now.

De-rating was considered likely to require primary legislation and non-universal de-rating would be subject to State Aid de minimis.

Fairness

50. It is the contention of the hydro sector that the business rates system delivers an excessive and 'unfair' rateable value for small-scale hydro generation plant. Their concerns existed at the 2010 revaluation and there were many appeals, including six pursued by the Old Faskally Farming Company Limited and Others. However, the 2017 Revaluation resulted in significant increases in the rateable values for many small-scale hydro schemes. The sector has provided evidence to suggest that rateable values are now, on average around 24 per cent of gross turnover. In this situation, actual rates payable equates to around 12 per cent of gross turnover. The sector also provided evidence to suggest that the equivalent figures for solar and wind are three per cent and five per cent of turnover respectively so rates as a proportion of turnover for hydro are 2.4 times those for wind and 4 times those of solar.

51. While a significant number of hydro subjects appealed their 2017 revaluation rateable values, the group understands that, at the time of the drafting of this report, the 2017 Highland appeals on hydro schemes had been cited for hearing by the Valuation Appeal Committee on 5th November 2019, although they were subsequently referred to the Lands Tribunal.

52. Using the evidence presented, the sector demonstrated the financial impact such costs can have on scheme development, particularly during the early years of operation. The introduction of the 60 per cent relief scheme by the Scottish Government did allow previously paused development activity to re-commence but developers, and perhaps more importantly financiers, remain concerned over the temporary nature of the current relief pending the outcome of this review.

53. The group devoted a significant amount of time to discussing the concepts of fairness and the relative merits of using percentage of turnover as a metric by which to judge the fairness of a property tax. The group accepted that fairness is a subjective concept but did not unanimously agree that turnover was a valid comparative metric. The group also agreed that the impact on finances was not uniform across the entire sector with FIT supported schemes typically facing greater challenges than those benefiting from the historical ROC scheme.

54. Hydro representatives were keen to see fairness relative to other renewable technologies, as defined by percentage of turnover (see paragraph 50). This view is bolstered by reference to the design of the ROC/FIT support system which is implicitly designed to deliver a broadly equivalent risk adjusted rate of return on investment across all low carbon technologies. However, relative turnover is not a material consideration in the rating hypothesis which is based upon the principle that all occupiers should pay a contribution of the rating burden in proportion to the rental value of the subjects which they occupy.

55. The group discussed comparisons with other sectors where turnover information is available. Since the rates system is based upon open market rental values, turnover and income levels generally have no bearing on rateable value calculations. Consequently, neither assessors nor Scottish Government have evidence to directly compare rateable values to turnover or income for most business properties or sectors in Scotland.

56. One notable exception to this rule is rateable values for the hospitality sector such as hotels, guest houses and public houses which are often incorrectly considered to be based upon turnover. Contrary to common understanding the rateable value of these subjects is determined from the level of rents passing for those types of subjects in the open market, as is the case for all subjects valued on the comparative principle. However, turnover is used as a method of comparison between different hospitality subjects in a similar manner to floor area when comparing shops or offices.

57. While the group was unable to agree consensus on this point, there was a general acceptance that the burden of rates as a proportion of turnover would vary dependent on the capital intensity of a business model. For example, rates as a proportion of turnover for a multi-story car park with limited operating and labour costs would be significantly greater than the equivalent proportion for a relatively labour intensive/high operating costs sector such as financial services or sectors with high raw material costs or high purchase costs of goods for sale.

58. The group agrees that, as a proportion of turnover, rateable values of small-scale hydro generators are higher than that of other renewable technologies(see paragraph 50). The group were unable to reach agreement that proportion of turnover is a key consideration in the rating system but does accept that there is an incoherence in policy design between the FIT system and the Non-domestic rates system. The FIT regime seeks to equalise investment rates of returns (analogous to equalising turnover) but fails to do so because of different non-domestic rates valuation outcomes. Meanwhile any attempt to address different non-domestic rates outcomes through the design of the FIT scheme would perversely result in increased rateable value which would compound the problem.

Valuation

59. The remit of the group was to consider the present law governing rating valuation of plant and machinery for hydropower schemes in Scotland, as such, several meetings were dedicated to considering the evidence available to assessors in determining valuations including discussion over which plant and machinery was considered rateable in the valuation process.

60. The group acknowledged that the concerns of hydro sector were focussed primarily on the receipts and expenditure method and the apportionment of the divisible balance which is directly impacted by which components of plant and machinery are considered rateable and which are not. It was noted that aspects of this discussion were ultimately matters of valuation which are subject to an independent legislative appeals process. In addition, the group were made aware of ongoing 2010 revaluation appeals sitting with the Lands Valuation Appeals Committee (LVAC) involving the Old Faskally Farming Company Limited and Others.

61. At the second meeting, the assessors shared the arithmetic underpinning the rateable values of 168 anonymised small hydro subjects which allowed some discussion on the divisible balance applied. The group understands that this information had not previously been available to the hydro sector which had unfortunately undermined their understanding of the rateable value calculation.

62. At the time the entries were made in the roll the assessor did not carry out a survey of each subject in order to determine the plant and machinery at each heritage.

63. The group were advised that the evidence available to the assessors, and therefore used to derive rateable values, showed that civil construction works, penstocks, turbines and connections represent around 90 per of the rateable value calculation. The group noted that the landlord/tenant share of the divisible balance had been adjusted and where any doubt existed as to the rateability of plant and machinery, those elements had been excluded. On that basis, penstocks and turbines have currently been excluded from the valuation approach thereby reducing the percentage underpinning the divisible balance calculation to 55 per cent.

64. The assessors were of the view that treating 55% of the assets of a scheme as non-rateable was generous to the ratepayers, and that it could have been argued that a significantly higher proportion of the assets were rateable. The assessor's position was that even if, contrary to his view, plant and machinery was not rateable under Class 1, much of it could have been rateable under the other classes, in particular under Class 4.

65. The group acknowledged that this decision to give the benefit of doubt to the tenant had effectively delivered a lower rateable value than would otherwise have been the case. The group also discussed whether elements of plant and machinery that have currently been excluded in the valuation process could actually be considered to be 'in the nature of a building or structure' or part of the 'lands and heritages' in their own right.

66. The group also discussed whether exempting plant and machinery under Class 1 of the regulations would have any noticeable impact on rateable value assessments since much of the plant and machinery is in the nature of a building or structure and may therefore be deemed rateable under class 4 or as part of the lands and heritages in its own right.

67. The group also latterly discussed the hydro sector's view that the construction costs of the pipe installation should not be considered rateable. The group did not take a view on any of these matters and agreed that such issues are a matter of legal principle and valuer judgement and are therefore for the independent appeals process and ultimately the courts to decide.

68. At the group's meeting on 9th November 2018, the possible impact and relevance of the above rating litigation to the review was considered. The Old Faskally cases were heard at the Land Valuation Appeal Court on 15th January 2019. The cases, relating to a 2010 roll revaluation appeal, involve a dispute over the valuation methodology applied to hydro power generation and is therefore directly linked to the objective of the review group.

69. While the group had reached substantive deliberations by November 2018, given the relevance of the case it was unanimously agreed to hold back on concluding the report until this litigation was complete in order to:

a) avoid accusations that the review sought to prejudice or interfere with a judicial process; and

b) ensure that the group's conclusions appropriately reflected the current legal view on the rating of small hydro heritages in Scotland.

70. The Lands Valuation Appeal Court decision in the Old Faskally cases was delivered on 24th April 2019. The Lord Justice Clark held that Plant might be non-rateable under Class 1 but yet be rateable under some other category. Items may be non-rateable under Class 1 but nevertheless be rateable under Class 4. The items which may be included in Class 4 are set out in tables 3 and 4. They include dams; fixed cranes and gantries; conduits and ducts; foundations; supports; turbines and generators; chambers and vessels; pits, beds and bays; and filters and separators. In each case the items are excepted if they are neither a building or structure nor in the nature of a building or structure. Accordingly, an item may be non-rateable in Class 1 but rateable in Class 4 on the basis that it is, or is in the nature of, a building or a structure.

71. The assessor's appeals were allowed and the cases remitted to the Committee for it to reconsider the evidence in light of the court's decision, and to determine in each case:

- (i) which, if any, parts of the plant and machinery from the end of the intake chamber to the end of the tailrace are rateable in terms of Class 4;
- (ii) the appropriate rateable/non-rateable asset split for each of the appeal subjects having regard to the rateability of dams, intake chambers, turbine houses and any other plant and machinery which it finds to be rateable in terms of Class 4.

72. Whilst the decision of the committee is awaited with interest, it is not certain that the final outcome of the Old Faskally appeals will have a bearing on other 2010 roll cases where appeals have been lodged or be relied upon as a precedent in similar 2017 roll appeals. It may well be that if ratepayers and assessor cannot agree the outstanding 2010 and 2017 roll rating assessments then further litigation may be the only resort to determine the valuation approach – in particular in respect of the outstanding 2017 appeals.

Rateable Plant and Machinery

73. The group extensively discussed the specific plant and machinery that was considered rateable for small scale hydro generation whilst acknowledging that aspects of this debate stray close to the ongoing Lands Valuation Appeal Court case for Old Faskally Farming Company Limited.

74. Further information on the assessor's view on the specific elements is provided at Annex D. The group noted that civil engineering components of plant and machinery are generally considered to be rateable and that significant elements of capital expenditure of a small-scale hydro scheme relate to civil engineering works. As noted in paragraph 67, the sector do not believe that the civil engineering works associated with pipe installation should be rateable.

75. Acknowledging that every site will be different on the basis of the topography of each individual site, most small scale hydro schemes operate on the same basic structure outlined in paragraph 9 with each scheme typically incorporating a dam or weir, an intake chamber, a pipeline/penstock, thrust blocks and a powerhouse or turbine house, turbine, generator, controls, transformer and tailrace. Further details of whether all these components are currently considered rateable or not are provided at Annex D.

- **Dam or Weir.** Dams are a named item in Table 3 of Class 4 of the Plant and Machinery Regulations and are therefore considered rateable.
- **Intake Chamber.** Tanks, chambers and vessels are all named items in Table 4 of Class 4 of the Plant and Machinery Regulations and are therefore considered rateable.
- **Pipeline/Penstock.** Whether a pipeline/penstock is rateable or not is the most significant area of debate in the rating of small scale hydro and is pertinent to the ongoing Old Faskally 2010 revaluation case. Further information on the nature of the debate is provided at Annex D.
- **Thrust Blocks.** Foundations are a named item in Table 3 of Class 4 of the Plant and Machinery Regulations and thrust blocks are therefore considered rateable.
- **The Powerhouse or Turbine House.** As a land and heritage in its own right, a powerhouse or turbine house is by definition a building and is considered to be rateable. As a further area of debate, turbines may or may not be rateable depending on the individual circumstances and further information on the nature of this debate is provided at Annex D.

Valuation methodology

76. The group discussed the merits of the three valuation methods. The members of the group were advised that it was accepted by both the hydro sector and assessors that there is insufficient open market rental evidence for complete schemes covering all rateable elements. The rental evidence that does exist tends to relate only to the land and water extraction rights and does not include rental for rateable plant or the powerhouse. Guidance from the Royal Institution of Chartered Surveyors¹⁸ suggests that these payments may be agreed on a rate per megawatt of capacity installed or can be negotiated on fixed figures but in practice payments are typically based on a percentage of gross turnover. Further rents or payments can be obtained in respect of substations, cabling, access roads or control kiosks although these are considered to be immaterial. The hydro sector do not consider the reference to this best practice guidance note to be relevant as the standard reference point that they use as the basis of assessment for rental is a percentage of turnover.

¹⁸ <https://www.rics.org/globalassets/rics-website/media/upholding-professional-standards/sector-standards/land/negotiating-options-and-leases-for-renewable-energy-schemes-2nd-rics.pdf>

77. Reasons for this lack of evidence could include the fact that small scale hydro plant are typically either owned and operated by the landowner; owned through arm's length agreements where the landowner has established a trust to operate the scheme; or the land and water extraction rights are rented with the 'tenant' providing the investment necessary to install and operate the plant. The latter category where the 'tenant' of the land and heritages was technically the landlord of the property (with associated debt) was a recurring theme in discussions on the divisible balance calculation.

78. Given the lack of substantive full scheme rental evidence, it is acknowledged that the comparative rental method is not feasible for application to small scale hydro. While there would be scope to deploy the contractors method, small hydro subjects are well suited to valuation by means of the receipts and expenditure method as the income that may be generated is inextricably linked to the geographical and topographical features of the employed site. These geographical and topographical features will directly determine the volume of water which can be collected and diverted through the hydro system. The fall in height between the header tank or intake chamber and the powerhouse will determine the force at which the water can power the turbine and thus the amount of electricity generated.

79. The group identified that the key determinants of the R&E calculation with regards to small scale hydro are the plant specific load factors, which in turn determine the level of income, and the landlord/tenant split of the divisible balance. It was acknowledged that high rateable values are directly influenced by the income flow – in particular the level of subsidy provided by the ROC/FIT support mechanisms and the degree of plant and machinery involved.

80. The group agrees that it is appropriate for small-scale hydro to be assessed using the receipts and expenditure method. However, there were questions about the extent to which the method was sufficiently flexible to accommodate subjects which are otherwise uneconomic in the absence of a Government subsidy.

81. Despite agreement that the R&E approach was correct, for context the group discussed the impact of adopting the Contractors Principle. The group noted that the methodology would deliver broadly comparable rateable values to that generated by the R&E approach. This correlation is not wholly unexpected given that both methods are ultimately driven by capital build costs. The Contractors principle is directly determined by the estimated capital rebuild cost of a subject. Meanwhile the R&E approach, as applied to hydro, is determined primarily by the tenants share of income/turnover – which is driven by the subsidy regime that has been established to support the specific level of capital investment necessary to deliver the UK Government's renewable commitments.

Economics and Small Scale Hydro Cashflows

82. The group considered some worked examples of anonymised summary valuations followed by examples of how those valuations impacted cash flows for anonymised projects. The Practice Note setting out the valuation approach adopted by assessors is attached at Annex E and an example valuation calculation is set out below.

83. The summary valuation model adopted by assessors uses the installed capacity of the site and the site load factor to determine a site-specific output and, by applying the appropriate subsidy regime, a gross income estimate.

84. Then operating costs are estimated on the basis of installed capacity and subtracted to leave the estimated operating profit (known as the divisible balance). Rates would typically be considered to be an operating cost but since the purpose of the exercise is to ascertain the rateable value (and thus the level of rates payable) they are excluded from this element of the calculation and deducted at a later stage.

85. The tenant's share of the divisible balance (which reflects amongst other things a return on the capital employed by the tenant and an element of risk) is then subtracted to leave the amount which is available (after deduction for rates) for payment to the landlord as rent. The rateable value reflects this derived rental figure.

Rating Valuation of a hypothetical 500kw run of river Hydro Plant

Gross Income (a function of capacity, load factor and the unit subsidy)	£276,700
less operating costs (which includes operation and maintenance but excludes non-domestic rates)	<u>£75,000</u>
Operating Profit	£201,700
less depreciation on tenant's capital at 45% (as per paragraph 63)	<u>£36,750</u>
Divisible Balance	£164,950
less tenant's share adjusted for risk and rates @39.81% ¹⁹	<u>£65,667</u>
Landlord's share	£99,283
less rates charged at 48.2p ²⁰	<u>£32,291</u>
Rent (NAV)	£66,993

¹⁹ The 55:45 landlord: tenant split is further adjusted to take account of risk and to remove rates to avoid double counting payments. The impact of this tenant's share (45%) is effectively increased by a further 10% to reflect risk resulting in 49.5% and the landlord's share is correspondingly reduced to 50.5%. Once adjustment is made that the 45 per cent figure changes to deduct non-domestic rates payments these percentages are effectively reduced to 39.81 per cent.% for the tenant and 60.19% for the landlord.

²⁰ The poundage (including the Large Business Supplement) at the Tone date

86. As outlined in paragraph 10, a small-scale hydro scheme typically involves significant upfront capital costs with relatively low operating and maintenance costs over the life of the project. The income received will depend on prevailing weather conditions and topographical considerations (calculated as a plant specific load factor) multiplied by an index linked subsidy payment for each unit of generation. The FIT payments lasts for 20 years from the point of accreditation. Business cases for a small hydro scheme are based upon a 40-year operational expectation although schemes can continue to operate for many years beyond that.

87. A consequence of this cost and expenditure profile is that the early years of a scheme's operation are characterised by significant negative cash flows, particularly while any debt financing is repaid. Evidence presented by the sector and agreed by the group showed that with the current (pre-relief) rateable value approach, a typical 2014 accredited 500kw run of river scheme 80 per cent debt financed over fifteen years would experience negative cash flows until year 6 and would have a cumulative cash shortfall until year 16.

88. For an equivalent 500kw scheme accredited in 2019, the annual cash flow remains negative until year 16 and the scheme never experiences a positive cumulative cash flow. In this case, as a consequence of the greatly reduced subsidy, the scheme shows a negative internal rate of return and is unlikely to be built – irrespective of the level of non-domestic rates liability.

89. For a 1MW scheme, the economics are slightly better with positive annual cash flow in year 11 and positive cumulative cash flow from year 16 onwards although, without continued government support, the internal rate of return may not be sufficient to encourage investment.

Year	2014	2019	2019
Plant Capacity	500kW	500kW	1MW
Loan repayment	15 years	15 years	15 years
FIT Generation tariff	£0.1603	£0.0620	£0.0620
Export value of electricity	£0.0491	£0.0491	£0.0491
Positive net cash position	Year 6	Year 16	Year 11
Positive cumulative net cash position	Year 16	n/a	Year 16
Internal Rate of Return (IRR)	7.00%	-3.70%	4.00%

90. The above calculations reflect the impact of the 2017 revaluation rateable values. The equivalent IRR calculations reflecting the impact of the relief introduced from 01 April 2018 deliver returns of 10.9%, -1.7% and 6.5% respectively. By way of context, in 2015 when subsidy levels were being established, the UK Government concluded that the investment 'hurdle rate' needed to be in a range of 6.4%-10.3%

with a 2015 reference point of 8.4%²¹. The equivalent reference points for wind and solar are 8.2% and 8.0% respectively.

91. These calculations highlight that the current relief significantly improves the economics for existing projects but that the investment climate for new build projects remains challenging even with continued Scottish Government rates support. The potential longer-term challenges facing the small hydro sector are not a matter for this review group but the analysis provided by the sector does help to highlight that changes to rates liabilities would have limited impact on a future project's internal rate of return relative to changes to the UK Government's low carbon support mechanisms.

92. The group agreed that, in terms of arithmetic and calculation, the practice note is being applied correctly and, on the basis of the evidence available to assessors, rateable values are therefore broadly correct. However, the group also notes that the apportionment of rateable and non-rateable plant and machinery has a significant impact on the valuation using a receipts and expenditure valuation model.

93. These factors are ultimately matters of valuation which are subject to an independent legislative appeals process and are beyond the remit of the group but the group notes that the exchange of information between assessors and ratepayers is critical to this apportionment calculation and that such information flows have been poor historically although the group notes that they have improved over the course of this review process.

94. As such, the assessors may not be in possession of sufficiently robust information to inform their calculations. If the assessors do not have accurate cost and generation information for each subject then the group acknowledges that individual rateable values may not be wholly accurate as the valuation will be derived by comparison to other similar heritages on the tone list.

95. The proposed reforms outlined by the Barclay Review of Non-Domestic Rates seek to deliver significant improvements in information flows between assessors and ratepayers. Those reforms would be expected to have a positive impact on the information available to assessors and help to ensure that more hydro subjects are valued accurately.

Other Issues

Transparency

96. One recurring issue for the group was the complexity of the non-domestic rates system including a lack of transparency regarding both the evidence provided

²¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/566809/NERA_Hurdle_Rates_for_Electricity_Generation_Technologies.pdf

by scheme occupiers as ratepayers and by assessors in calculating rateable values. While aspects of non-domestic rates are unavoidably complex, including the application of receipts and expenditure methodology, the group supports the recommendations of the Barclay Review of Non-Domestic Rates that the rating system needs to be more transparent and relevant information flows between stakeholders must improve.

97. As examples, the hydro sector would point to the opacity of the valuation process, particularly the assumptions applied to which plant is deemed rateable and which isn't. While this information was openly discussed and shared at the Review group, this information was apparently not available to the sector prior to the group's establishment. Conversely assessors contend that the sector as a whole failed to provide sufficient evidence on both the total construction costs of hydro schemes and the apportionment of those costs between the different elements of a hydro scheme.

98. Following the conclusion of the group's deliberations, the group was made aware of recent efforts by the hydro sector to share more project cost data with the assessor. These are matters of valuation and are therefore beyond the remit of the review group but the group agrees that continued engagement and discussion between the hydro sector and assessors should be encouraged and that assessors should continue to reflect on the valuation process to ensure they accurately reflect the reality – as it existed at the tone date and beyond.

The Closure of the FIT regime to new entrants

99. During the review group it became apparent that existing practice notes for hydro (and other renewable subjects) may not reflect the changes to UK Government's FIT schemes that were confirmed following the 2015 Review outlined in paragraph 19. Since this information was not available at the 1 April 2015 tone date, the group agrees that this is a change in circumstances rather than a simple change in rental values and that the significant degeneration and subsequent closure of the FIT regime to new entrants should therefore be reflected in rateable values for new subjects. The group encourages the Scottish Assessors Association to correct this anomaly as quickly as possible so as not to unnecessarily deter future investment in the sector.

Valuation Roll Coverage

100. Evidence presented by the hydro sector indicates that there are over 400 hydro schemes of less than 5MW in Scotland, 70 per cent of which have been commissioned since 2010. At the onset of the review, assessors had identified 168 small scale hydro schemes on the valuation roll. That figure is now estimated at 441 entries.

Conclusion

101. As outlined in paragraph 75, the group agree that dams, intake chambers and powerhouses are all named items in the plant and machinery regulations and the assessor is therefore correctly applying the regulations with regards to those elements. The group considered that thrust blocks would be considered rateable as foundations but notes that this remains a point of contention in the ongoing LVAC case. The group also notes the debate (including at the ongoing LVAC case) around penstocks, turbines and generators but as the assessor has currently excluded those elements from the valuation calculation the group did not take a view on whether that was a correct application of the regulations.

102. Similarly, the group did not take a view on whether items excluded from the plant and machinery regulations would then be valued as part of the lands and heritages in their own right and agree that such issues are a matter for the courts to decide.

103. While aspects of non-domestic rates are unavoidably complex, including the application of receipts and expenditure methodology, the group supports the recommendations of the Barclay Review of Non-Domestic Rates that the rating system needs to be more transparent and relevant information flows between stakeholders must improve without delay.

104. By design, hydro electricity generation plant is heavily dependent on civil engineering works which are typically rateable as either plant and machinery or as lands and heritages. Comparator technologies such as wind and solar power do not require comparable levels of civil engineering infrastructure which typically results in relatively lower rateable values.

105. The group was provided with no evidence that the plant and machinery regulations, or indeed lands and heritages, for hydro had been applied in a way that was materially different to equivalent plant and machinery in other sectors even if the resulting rateable values as a proportion of turnover were higher than other renewable technologies. While the hydro sector representatives were in favour of changes to the plant and machinery regulations, the majority view of the group was that changes to the regulations specifically for small scale hydro were not justified or required.

106. However, the group does agree that the outcome of correctly applying the regulations is resulting in adverse outcomes for small scale hydro schemes supported under the FIT regime and that concerns regarding the viability of some parts of the existing hydro sector have merit. The group therefore concludes that significant elements of the existing sector will struggle, at least in the short term, without further public sector support. In addition, future investment may be undermined by the existing rates regime although, as identified in paragraph 90, there are other factors that may impact that situation.

107. These concerns do not appear to be universally applicable throughout the sector and the group notes that plant benefiting from the ROC regime are not facing the same level of difficulty as plant operating under the FIT support.

108. The nature of any ongoing public support is a matter for Scottish Government to determine but reflecting on the options considered by the review group; the group does not believe that doing nothing is a sustainable option for parts of the sector; that there is no evidence to justify a sector specific exemption (or de-rating) for the reasons set out in paragraphs 101 to 105. While a relief may be imperfect and it will be vital to provide greater certainty for investors in new plant, the majority view on the group was that a relief could represent a viable solution to deliver a more affordable rates outcome for the sector whilst maintaining fairness with other ratepayers.

109. In concluding that continued public support may be required, the group notes that there is an inherent tension between the renewable subsidy regime and the non-domestic rates valuation approach. By design the renewable subsidy regime effectively seeks to equalise returns from different low carbon technologies on the basis of the levelised cost of energy but the primary evidence used to underpin that calculation excludes any consideration of relative non-domestic rates liabilities. As such, any differential rates liabilities are not reflected in the level of subsidy support provided thereby technologies with higher non-domestic rates liabilities are essentially disadvantaged.

110. However, since the receipts and expenditure methodology explicitly considers subsidy income within the rateable value calculation, any attempts to reflect differential rates liabilities would have directly impacted rateable values. As such, had the UK Government reflected rates liabilities in the levelised cost calculation to justify a higher level of support, the result would have been an even higher rateable value.

111. This circular calculation appears to be unavoidable but the group agrees that the outcome is that hydro subjects are disadvantaged relative to other renewable technologies given the greater importance of civil engineering works (manifesting as plant and machinery) in hydro.

112. In coming to these conclusions, State Aid considerations have been a recurring and material factor. By focussing on a single sector of the economy, all options available to the group are understood to have state aid implications – which as outlined in paragraph 47 will continue irrespective of the future trading relationship with the European Union.

113. The evidence available to the group was presented on a scheme by scheme basis and anonymised to protect any commercial confidences. Therefore the group was only able to consider each scheme individually and in isolation so would not be able to identify any portfolio impacts including those associated with State Aid de

minimis levels. As an example, of the 168 schemes for which evidence was provided, only seven would hit de minimis limits in isolation but it is known that multiple occupation is not uncommon and some schemes are owned or operated as portfolios. The extent of these overlaps are unknown, although the sector considers them to be significant and estimates that around 100 schemes could potentially fall foul of de minimis levels.

ANNEX A: MEMBERSHIP

The membership of the group is set out below.

Name	Organisation
Professor David Tretton (Chair)	Royal Institution of Chartered Surveyors
Kenny Hunter	British Hydropower Association
Professor Fiona Grant	Heriot-Watt University
Alastair Kirkwood	Scottish Assessors Association
Stephen Hutt	British Hydropower Association
Bill Gillies	Scottish Assessors Association

ANNEX B: MEETINGS

The group met on seven occasions between April 2018 and September 2019. The minutes of these meetings are available at

<https://www.gov.scot/groups/tretton-review-group>

ANNEX C: REQUIRED CHANGES TO THE PLANT & MACHINERY ORDER – VIEW FROM THE SMALL-SCALE HYDRO SECTOR

Introduction

1. This paper has been prepared by Kenny Hunter of Hunter Hydro Services, on behalf of the small-scale hydro sector in Scotland, to provide a basis for discussion at the second meeting of the Tretton Review Group, established by the Scottish Government to carry out the fast track review of the Plant & Machinery Order as it applies to small-scale hydro-electricity schemes.

2. The aim of the paper is to inform the group of the hydro sector's current understanding of how rating applies to small-scale hydro, the sector's view of the inherent flaws in the current legislation and methodology, the economics of small hydro development and the sector's proposals to revise the Plant & Machinery Order.

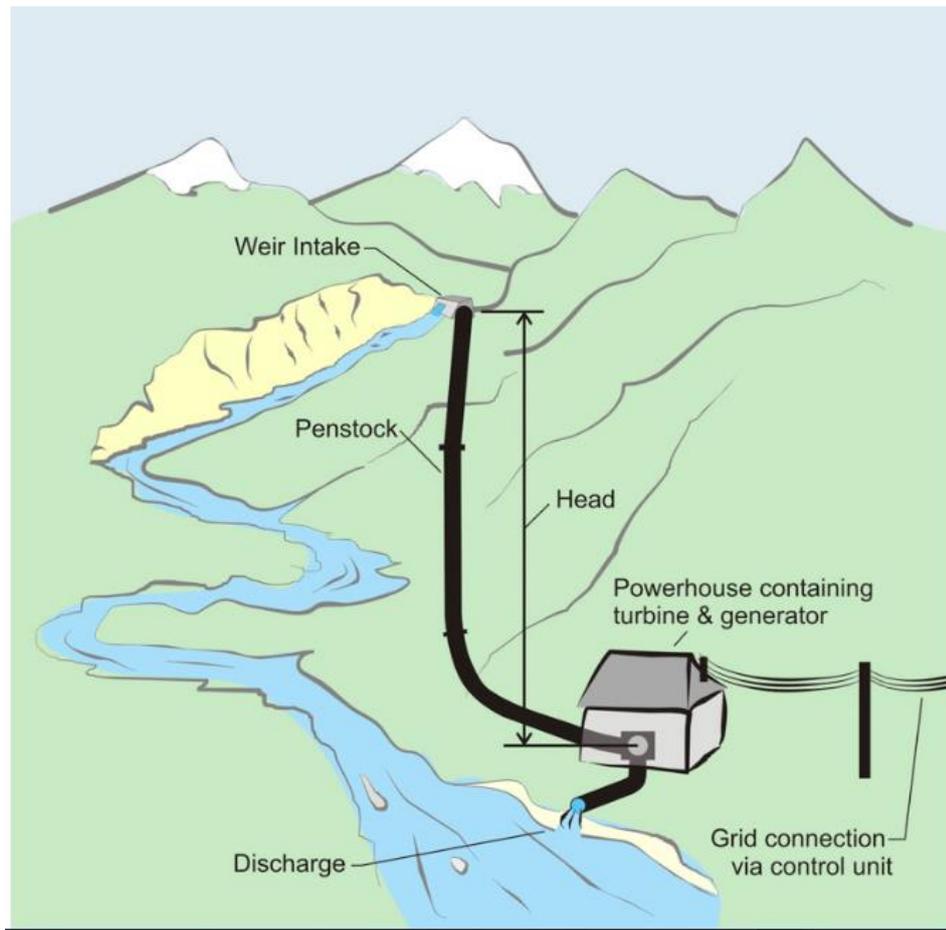
Proposed changes to the Plant & Machinery Order

3. The proposal from the small-scale hydro sector (schemes of up to 5MW capacity) is that all physical infrastructure, including all items of plant and machinery associated with such scheme extending from where the water is extracted from the water course to where it is returned, should be exempt from rates. For clarification, this will include the intakes, the penstock, the power house, equipment linking the scheme to the grid and all access tracks and bridges that support the safe operation and maintenance of the scheme.

4. With all the infrastructure being classed as non-rateable, assessors will be able to draw upon the rental evidence provided for the 2017 Revaluation by hydro operators to calculate Rateable Values. We would expect this to produce rateable values of approximately 10% of gross turnover.

5. At this stage we are seeking support in principle from the Tretton Review. It is appreciated that there will be wording challenges, with concerns about the prospect of other sectors seeking to take advantage of any revised wording and concerns around state aid consequences of the wording being overly specific regarding small-scale hydro.

The components of a small-scale hydro scheme



Rating issues for small-scale hydro

6. The Plant & Machinery Order currently decrees that the substantial majority of a small-scale hydro scheme is deemed to be rateable. This statement is supported by the attached document detailing the conclusions of the Valuation Appeals Committee on 28 October 2013. Alastair Kirkwood has confirmed that this represents an accurate view of the current interpretation of the Plant & Machinery Order.

7. Without any discretionary adjustment by the assessors, small hydro schemes would be at least 90% rateable – with the only exempt elements being the screen at the intake along with various electrical items in and around the power house, notably the transformer, switchgear, distribution board and control panel.

8. In such circumstances, to establish a hypothetical rent, it would be assumed that the landlord has >90% 'ownership' of the scheme.

Worked examples to illustrate impact of current PMO wording

9. The following worked examples are designed to illustrate the valuations that result from applying The Plant & Machinery Order through the Receipts and Expenditure valuation method to small-scale hydro schemes.

10. In the first example, the valuation is based upon rateable classification as decreed by the Plant and Machinery Order with no discretionary intervention by the assessors, i.e. hydro schemes are deemed to be 90% rateable.

11. The second example reflects the approach taken by Scottish assessors during the 2017 Revaluation, with a discretionary adjustment of the rateable component (or landlord's share) to 55% for depreciation purposes and 60.2% for allocation of the Divisible Balance.

12. The purpose of this exercise is to demonstrate two points:

- The Plant and Machinery Order as it stands, does not produce valuations for small-scale hydro that are fit for purpose
- The arbitrary adjustments made by the Scottish assessors are insufficient to produce a fair outcome in terms of small-scale hydro scheme valuations

Example 1: No discretionary adjustment by assessors

13. A 500-kilowatt scheme will typically generate 1,500,000 kWh per annum and produce gross income in the region of £325,000.

14. Applying the Receipts and Expenditure method and adjusting for a 90% landlord ownership level (based on rateable classification) the hypothetical rent/RV would be **£145,172**.

15. On this basis, assuming a poundage rate of 50p, the rates payable will be **£71,085** – which when added to the rental, amounts to £213,150, i.e. 65.6% of gross turnover.

Application of rateable classification as per the PMO (Receipts & Expenditure method)

Scheme size	500 kilowatts
Annual generation	1,500,000 kilowatt hours
Gross income	£325,000
Operational costs	£75,000
Net turnover	£250,000

Tenant allowance for depreciation (10%*£2,450,000/30)	£8,167
Divisible balance	£241,833
Landlord/tenant split	90/10
Tenant share	£24,183
Amount available for rent and rates	£217,650
Rent/Rateable Value (@66.7% of amount available)	£145,172
Rates payable	£72,586
Rates payable as % of gross turnover	22.3%

16. But the assessors do make a discretionary adjustment, reducing the rateable component to 55%. This is understood to be in line with the approach taken by the VOA in England, with the intention being that the two approaches are harmonised. This split is used when calculating depreciation.

17. A further adjustment is then made by the assessors to reflect the associated risk, which creates the c.60/40 split between landlord share and tenant's share as applied by Scottish assessors in their application of the Receipts and Expenditure method when allocating the divisible balance.

18. The Rateable Value produced by Scottish assessors using the Receipts and Expenditure Method of Valuation, as it was applied for the 2017 Revaluation, would produce a Rateable Value of **£85,717** – equivalent to **26.4%** of gross turnover, as illustrated below;

Approach applied by Scottish assessors for 2017 Revaluation (Receipts & Expenditure method)

Scheme size	500 kilowatts
Annual generation	1,500,000 kilowatt hours
Gross income	£325,000
Operational costs	£75,000
Net turnover	£250,000
Tenant allowance for depreciation (45%*£2,450,000/30)	£39,057
Divisible balance	£210,943
Landlord/tenant split	60.2/39.8
Tenant share (39.8%)	£83,955
Amount available for rent and rates	£126,988
Rent/Rateable Value (@66.7% of amount available)	£85,717
Rates payable	£42,858
Rates payable as % of gross turnover	13.2%

19. If assessors are going to make arbitrary adjustments, why not reflect the real arrangements that apply rather than a hypothetical construct that does not exist?

The Wood Committee 1999

20. Extract from recommendations:

21. *Electricity Generation. Under Class 1 of the existing regulations most of the plant and machinery used in the electricity generating industry would be rateable. The Committee considered that Class 1 of the regulations was devised to bring into rating plant which generated power for use in some other trade or process which was the principal business activity of the ratepayer. However, in the case of the power generators, the manufacture and supply of power was the very business which they carried on. Therefore, they recommended that a 'tools of the trade' exemption should apply to generating plant and machinery belonging to the power generators, although such plant which was in the nature of a building or structure and fell within Class 4 should continue to be rated.*

22. To what extent should the Tretton Review be bound by the earlier work of the Wood Committee?

23. If we do feel such a need, why is this separate review taking place?

24. The 1999 Wood Committee sought to keep rates bills down, through 'tools of the trade' exemptions, for electricity generation destined for the grid. With 90% + of the average hydro scheme currently being rateable under the Plant & Machinery Order, it is surely inappropriate to use the Wood Committee as a start point or even as a point of reference for the Tretton Review.

25. The composition of hydro schemes, with a very large civil engineering component and a relatively small share of the cost attributable to electro-mechanical plant, results in them singularly failing to benefit from the 'tools of the trade' exemption for electricity generators, as defined by the Wood Committee.

26. There needs to be a different approach to the rating of hydro schemes.

27. This is likely to involve treating those buildings and structures that appear to be the 'sacred cows' of rating, as tools of the trade, and therefore exempt from rating, so far as hydro schemes are involved. On the basis that we will require to deviate from long established rating precedent to reach a fair outcome for small-scale hydro, it is hard to see why any physical element of a hydro scheme should not be exempt from rating.

The economics of small-scale hydro

28. The predominant model throughout the FIT period has been for small hydro schemes to be funded by non-recourse/unsecured bank debt. Repayment terms are between 12 and 15 years and the rate of interest is between 7% and 12%. For the purposes of this example it is assumed that the scheme is funded with 20% equity and 80% debt.

29. The 500 kW scheme referred to throughout this paper will typically cost £2.5 million to construct. Annual finance repayments are likely to be in the region of £225,000.

30. Operational costs have historically been between 10% and 15% of gross revenues, albeit this % falls for larger schemes as some of the costs are fixed, regardless of scheme size. This figure excludes rent and rates. Allowing for rent at 10% and rates at 5% of gross revenues, the overall operational costs amount to between 25% and 30% of costs (£80,000 - £100,000).

Scheme size	500 kilowatts
Annual generation	1,500,000 kilowatt hours
Gross income	£325,000
Operational costs (excluding rent & rates) @ 12.5% of t/o	£40,625
Rent @ 10% of turnover	£32,500
Rates @ 5% of turnover	£16,250
Net income	£236,125
Debt repayments (£2,000,000 @ 8%)	£225,000
Net profit/available cash (year 1)	£11,125

31. The above example would leave approximately £11,000 after finance costs and operational costs, but quite possibly less than that or even a negative figure depending on generation output over the year and the prospect of unforeseen costs.

32. These figures may cause one to question why schemes proceed, however the situation will improve over time thanks to the fact that the Feed in Tariff element of the income stream is index linked in accordance with RPI. This progressively creates a degree of financial 'breathing space', however, for most schemes, the first 5 years produce little, if any profit.

33. The main profit years for hydro schemes are between years 15 and 20, when the loans are paid off, but Feed in Tariffs remain in force. Beyond year 20, income is based solely on the sale of electricity in the market, with gross revenues typically falling by between 70% and 80%. For this reason, it is essential that an interim Revaluation takes place for each scheme when its FIT eligibility ends.

34. When the financial models were being prepared for the schemes that have been built in recent years, the small hydro sector was benefitting from 100% relief from business rates. It was recognised that this was a temporary arrangement and consequently most financial models, if not all, would include a line for business rates. The broad assumption applied was that business rates would amount to approximately 5% of turnover – partly on the basis that rateable values would be aligned to rents.

Impact of 2017 Revaluation on new hydro development

35. The 2017 Revaluation saw Rateable Values for small-scale hydro schemes increase to an average level of 24% of turnover. Applying a poundage rate of 50p, this resulted in rates payable equating to 12% of gross turnover on average.

36. Returning to the worked example used throughout this paper, that would add £22,750 of costs. As has been demonstrated, the economics cannot accommodate such extra costs, particularly during the early years of operation. Consequently, many of the schemes that were in the development pipeline at the time of the Revaluation, were put on hold. The intervention of the Scottish Government with the 60% relief scheme has allowed development activity to re-commence, however it should be noted that developers remain concerned by what they perceive to be the temporary nature of reliefs.

Impact of 2017 Revaluation on existing schemes

37. The introduction of the ‘capped increase’ relief scheme in 2017/18 and more importantly, the 60% relief scheme as from April 2018, has protected most schemes below 5MW from the full impact of the 2017 Revaluation. Had the Scottish Government not made these interventions, many schemes would have been unable to continue trading.

What is a fair level of rates?

38. On the SAA website the role of the assessor is said to be “to balance the interests of individual ratepayers against those of others, in terms of valuation levels.”. This balancing of interests would, to a reasonable person, equate to the principle of fairness.

39. In the meeting with the Finance Minister in July 2017, Mr Mackay asked his official what % of turnover small businesses typically paid in rates. The answer given was ‘between 3% and 4%’.

40. The view of the hydro sector is that rates payable should not exceed 5% of average gross turnover.

ANNEX D: SAA BRIEFING PAPER FOR SMALL HYDRO PLANT & MACHINERY REVIEW

1.0 Introduction

- 1.1 This paper seeks to identify the philosophy that underpins the rating system in Scotland, together with an overview of the application of the existing plant and machinery regulations to small hydro schemes and the identification of various issues that arise in relation thereto. Its primary purpose is to provide background material to assist the Review Group in its consideration of what, if any, changes should be made to the Plant and Machinery Regulations.

2.0 The background philosophy of the non-domestic rating system in Scotland

2.1 General Background

2.1.1 The system of non-domestic rating system in Scotland has its roots in the Lands Valuation (Scotland) Act 1854. This Act set out that the statutory basis of rating assessment should be the annual rental value²² of all Lands and Heritages as defined in the Act²³. Broadly, the term “Lands and Heritages” relates to heritable property although it does include some incorporeal rights such as shooting rights. Despite the fact that there have been a number of modifications to the rating system over the years, this fundamental basis of the rating system, i.e. that it should reflect the annual rental value of all Lands and Heritages, has remained unchanged. Thus, since 1854 the liability for rates payments has remained as the assessed Rateable Value (i.e. the Assessor’s estimate of rental value on the statutory basis) multiplied by the appropriate rate in the pound²⁴. The inherent “fairness” sought to be achieved by the underlying architecture of the system is that all occupiers should pay a “fair” share of the rating burden in proportion to the rental value of the subjects which they occupy.

2.1.2 The fact that parts of the original 1854 Act remain in use today is testament to the efficient and robust nature of the rating system. The strengths of the system are generally perceived to be that tax avoidance is difficult to achieve as the subjects to be assessed are both immovable and readily identifiable, together with high tax collection levels and relatively low administration / collection costs as compared to other tax systems.

2.1.3 The rating system is relatively stable and that reflects the fact that, normally, property rental values tend to gradually rise or gradually fall over a number of years. Changes in rental levels are reflected for rating purposes by taking a snapshot at each

²² Section 1 - The Lands Valuation (Scotland) Act 1854

²³ Section 42 - The Lands Valuation (Scotland) Act 1854

²⁴ The Non-Domestic Rate (Scotland) Order 2018

General Revaluation, which normally takes place on a 5 yearly cycle. This stability, which compares favourably to, for example, corporation tax or income tax, means that tax receipts are relatively stable and, when considered as a part of the overall basket of different tax systems which together make up the national tax base, this stabilising factor has broadly been welcomed.

2.1.4 Flexibility has been achieved over the years by varying the period between revaluations to reflect abnormal circumstances. Therefore, the proposed revaluation in 1983 was postponed until 1985 and the proposed revaluation in 2015 was postponed until 2017. Recent announcements by the Scottish Government have indicated that revaluations will take place on a 3 yearly cycle with effect from 2022.²⁵

2.1.5 Further flexibility within the rating system is achieved by the introduction of various forms of rates relief (i.e. relief from payment of rate liabilities) introduced by Government under various initiatives – e.g. the Small Business Bonus Scheme, Charitable Relief etc.

2.2 Tax Assessment Based on Rental Value

2.2.1 The statutory definition of Net Annual Value (which unless modified by statute equates to Rateable Value) is:

“...the rent at which the lands and heritages might reasonably be expected to let from year to year if no grassum or consideration other than the rent were payable in respect of the lease and if the tenant undertook to pay all rates and to bear the cost of the repairs and insurance and other expenses, if any, necessary to maintain the lands and heritages in a state to command that rent.”²⁶

2.3 Rating is based upon the level of rents - not turnover or income

2.3.1 Rating tax liability is based upon the assessed Rateable Value, which in turn is based upon the rental value of the premises in question. There is (save one exception noted in S2.4 below) no direct link between the level of rental value or Rateable Value of a property and the level of turnover or income generated by the occupier of that property.

2.3.2 Thus there is no comparison to be drawn, and indeed in practice no such comparisons are routinely drawn, between the ratio of rental or Rateable Value compared to the occupier’s turnover or income and the ratio of rental or Rateable

²⁵ Scottish Draft Budget Statement 2018/19

²⁶ Section 6(8) – the Valuation and Rating (Scotland) Act 1956

Value compared to the turnover or income of another occupier's property. See Armour S11-08²⁷ and the quotations from Blackburn J.²⁸

2.3.3 It is true, of course, that differing property costs (including rent and rates) will produce, on a like for like basis, a competitive advantage between one trader and another, or one business sector and another, and this will generally result in a drive towards the most efficient use of property. It will also be true that, in general terms, some types of business may require more extensive use of property than other types of business. It will often be seen that, even within the same sector, competing businesses may employ different business models, different production techniques and / or different processes, which will make one occupier a more efficient user of property than another. This will inevitably result in variations in the ratio of rental or Rateable Value against turnover / income between different properties and different occupiers.

2.3.4 Whilst comparisons between the ratio of Rateable Values and turnover / profitability of different business occupiers does not form part of the rating system, some general points have been highlighted by organisations such as the Federation of Small Businesses, who have asserted that small businesses pay a far larger percentage of their turnover in rates compared to large businesses.²⁹ Similarly much has been made of firms which use the internet heavily avoiding rates liability although, to date, little attention has been given to the marked increase in the Rateable Value of Telecom and Internet Providers such as British Telecom or Virgin Media.

2.3.5 Traditionally, such concerns have not been addressed by making fundamental changes to the basis of assessing Rateable Value. Governments at both the UK level and at the devolved Government level have preferred to address such issues by introducing various forms of relief (e.g. Small Business Bonus Scheme, Charitable Relief etc.) rather than altering the method of assessing Rateable Value. Indeed, the converse position has been adopted. As identified within the recent Barclay Report³⁰, it is recognised that it is important that a common basis of assessment is applied equitably to all lands and heritages in the first instance. It is only by assessing all lands and heritages on such a common basis that Government can effectively identify properties, or categories of property, to which it wishes to provide relief in pursuit of legitimate policy aims. Further, it is only by having all heritable property assessed on a common basis that the costs and benefits of providing such relief to appropriate sectors can be identified and evaluated.

²⁷ Armour on Valuation for Rating – 5th Edition S11-08

²⁸ Mersey Docks & Harbour Board v Liverpool Overseers 1873 & R v London & North Western Ry. 1874

²⁹ Revaluation 2010 - Non-Domestic Rates - An FSB Scotland Policy Discussion Paper - September 2010

³⁰ Report of the Barclay Review of Non-Domestic Rates- Recommendation 28 - **All property should be entered on the valuation roll (except public infrastructure such as roads, bridges, sewers or domestic use) and current exemptions should be replaced by a 100% relief to improve transparency.**

2.3.6 It is also the case that, should classes of lands and heritages, or parts of lands and heritages, be excluded from assessment for rating purposes, then the practical outcome is that records are no longer maintained for those subjects or parts of subjects. Real difficulties may subsequently be experienced if consideration requires to be given to those subjects, or parts of subjects, at a later stage – either with the aim of bringing them back into rating (as was the case recently with shooting rights) or indeed in quantifying the extent of relief being awarded – as is the case with agricultural subjects. In effect, once detailed survey records cease to be maintained by Assessors, it is extremely difficult to re-introduce these items to the rating system. For this reason alterations to the basis of assessing rateable value does not lend itself to short term fluctuations in government policy – such matters are better dealt with via relief schemes which can more readily be amended, on a year to year basis if required, to reflect particular circumstances.

2.4 Subjects valued in relation to profitability or income

2.4.1 It is noted above that there is one exception to the rule that turnover / profitability does not determine, or “drive” the level of Rateable Value. That exception applies to a specific category of properties which in Scotland have traditionally been valued on the Revenue Principle of valuation (now known as the Receipts and Expenditure Method of Valuation³¹). This small category of subjects – which typically will include harbours, ski lifts and major utility undertakings – are those where the profits that can be gained from the property are so inextricably linked to the actual geography / topography of the precise location that the business could not be carried on elsewhere. Such subjects are rarely if ever let in the open market. The Receipts and Expenditure method of valuation is therefore employed to identify the income that may be achieved from the premises and deduct the costs of generating that income and certain other allowable expenses. The remainder (termed the divisible balance) will be apportioned between the amount required to attract the operator to undertake the business and the residue which will be attributed as rent to the landlord. The recognised methods of valuation for rating purposes are discussed in more detail in Section 5 below.

2.4.2 The small category of subjects described in S2.4.1 above should not be confused with certain other subjects (e.g. public houses, hotels, petrol filling stations) which are valued on the comparative basis of valuation using rental values but for which the method of comparison is turnover or trade levels. For these the subjects principal driver in arriving at Rateable Value is the level of rents passing in the open market. An analysis will be undertaken of those open market rents and these rents will be compared to the hypothetically achievable turnover for the subjects in question. The resultant ratio between turnover and rental levels can then be applied to other similar subjects. Typically, licensed subjects such as hotels and public houses will fall into this category.

³¹ The receipts and Expenditure Method of Valuation – A guidance Note by the Joint Professional Rating Forum 1997

2.4.3 It will be noted from above that in the majority of instances turnover or income plays no part in the assessment of rateable value and Assessors have no need of, nor access to, the turnover or income for the vast majority of business premises in Scotland. Whilst no such figures have been collated it is considered that Assessors will have details of the turnover for less than 10% of subjects entered in the Valuation Roll. In many cases it will not be possible for turnover figures to be sourced at all – either because the premises are occupied for non-commercial purposes (e.g. schools, hospitals and other public authority subjects), or because the premises are occupied as part of a larger business which undertakes accounting across a number of different premises.

2.4.4 From the limited number of examples in which of information relating to the ratio between Rateable Value and the level of turnover is available to Assessor, some details are noted below:

Hotels: Accommodation percentages to NAV range from 7.5% to 18.00%. Catering and Liquor percentages to NAV range from 6% to 10%.³²

Guest Houses: Percentages to NAV range from 12.5% to 14%.³³

Public Houses: Percentages to NAV range from 6.5% to 8%.³⁴

It is understood that the relationship of NAV to turnover for Self Catering Units is frequently in excess of 20% with some specific examples being in the order of 60%+.

It is understood that the relationship of NAV to turnover for multi storey car parks can often be in excess of 30%, again there may be examples in excess of 50% or 60%.

Some private leisure centres may demonstrate relationships in excess of 30%.

It is also understood that a number of Retail Units (e.g. within shopping malls or food courts), operate a system of turnover rents whereby a base level of rental value is agreed which will be replaced by a % of turnover calculation where this generates a higher level of rent. The percentages applied in these situations may vary but will be between 5% and 25%.

2.5 The Role of Model Valuation Schemes

³² Scottish Assessors' Association CPC Practice Note 20 – Valuation of Hotels and Accommodation Subjects

³³ Scottish Assessors' Association CPC Practice Note 24 – Valuation of Guest Houses

³⁴ Scottish Assessors' Association CPC Practice Note 19 – Valuation of Licensed Premises

2.5.1 It is extremely rare that two properties will be exactly identical. Generally speaking the location will always be different unless properties are situated side by side and, even where premises are adjacent it may be that one benefits or suffers from closer proximity to some external factor. Further, it is rare for two properties to be exactly the same in terms of their construction, dimensions and physical characteristics. The nature of the rating system is that each property should be individually assessed at the precise Rateable Value that reflects the Assessor's estimate of that subject's rental value on the statutory terms.

2.5.2 There is no provision for a scheme of valuation to be applied that would detract from the unique Rateable Value that each individual property should have. Notwithstanding this however, model schemes of valuation can be, and frequently are, employed in valuation for rating. Such model schemes can be extremely beneficial in providing pragmatic, consistent, valuations that are in harmony across different jurisdictions. It is critical however that any model scheme makes adequate provision to fully reflect the location and physical differences between different properties in arriving at the Rateable Value for each subject.

3.0 An explanation of the traditional application of the existing plant and machinery regulations

3.1 General Background

3.1.1 Certain Elements of plant and machinery have been recognised as being rateable since rating was introduced in Scotland in 1854³⁵. A number of issues have arisen over the period reflecting changes to the industrial landscape and the development of new technologies. In response reviews have taken place to consider such changes and, where necessary, new legislation has been introduced to accommodate changing circumstances.

3.1.2 A full history of the various changes to the rating of plant and machinery is given within the Wood Committee Report 1993³⁶ and it is not proposed to recite that history here. Suffice to say that the underlying premise is that, in principle, investment in significant items of plant and machinery, particularly in the civil construction elements of plant and machinery, is no different to investment in buildings and other lands and heritages. It has always been considered that such investment should be subject to rating in the same way as buildings.

3.1.3 Having said the above, a balance requires to be struck in order to achieve a similar rating burden for investment in plant and machinery as for buildings, while at the same time providing a regime which can be applied in the face of increasing complex technological changes and one which does not unduly impede investment. These are the issues that have been considered in the various reviews.

³⁵ S42 of the Lands Valuation Scotland Act 1854 – the definition of Lands and Heritages included “... all Machinery fixed or attached to any Lands or Heritages...”

³⁶ The Rating of Plant and Machinery: A Report by the Wood Committee 1993

- 3.1.4 The last two reviews of the rating of plant and machinery were undertaken under the Chairmanship of D Wood QC. The first review was undertaken in 1993 with the express intention of harmonising the rating of plant and machinery across the United Kingdom. The changes brought about by that review were implemented at the general revaluation in 1995. The second review was undertaken in 1999³⁷ in order to ensure that the Regulations were fit for purpose when utility subjects (Electricity, Gas, Water, Railways & Large Ports) were returned to conventional valuation (previously these had been valued on an artificial formula basis by Government officials). The Review Group may wish to give detailed consideration to each of the Reports. Ultimately, the 1993 Report gave rise to the Valuation for Rating (Plant and Machinery) (Scotland) Regulations 1995 and the 1999 Report gave rise to the amended Valuation for Rating (Plant and Machinery) (Scotland) Regulations 2000, which are still in force today.
- 3.1.5 Since 1995 it has been considered to be of paramount importance that a harmonised approach be taken to the rating of plant and machinery across the United Kingdom. This was largely driven by the demands of industry who considered that a level playing field should apply in rating assessments north and south of the border. Further, as many affected businesses operated in both Scottish and English jurisdictions, it was essential that assessments were approached under a common, transparent, framework. These considerations were fully adopted by the Wood Committee and the Regulations subsequently enacted in Scotland and England are almost identical.³⁸
- 3.1.6 In constructing a harmonised basis for the rating of plant and machinery, the Wood Committee took as its starting point the framework and procedures adopted in England, and amended these as appropriate. That framework had been in operation in England in a similar form since at least 1925 (See S4.2.4 below) and thus a significant amount of English case law and legal precedent is available and of assistance in determining how the new regulations should be applied. By comparison, there is relatively little Scottish case law and legal precedent since 1995 which is of assistance in interpreting the current Regulations.
- 3.1.7 It has recently been stressed by the Lands Valuation Appeal Court in Scotland³⁹, that the express purpose of the Regulations is to bring about similar outcomes north and south of the border and that it is appropriate to make reference to English cases to assist with the interpretation of the Regulations in Scotland.

³⁷ The Rating of Plant and Machinery in industries currently subject to prescribed assessment: A Report by the 2nd Wood Committee 1999.

³⁸ The Valuation for Rating (Plant and Machinery) (Scotland) Regulations 2000 and The Valuation for Rating (Plant and Machinery) (England) Regulations 2000.

³⁹ Assessor for Tayside Valuation Joint Board v Old Faskally Farming Company and Others 2016.

3.2 The basis of Plant and Machinery Regulations

3.2.1 The Plant and Machinery Regulations have been carefully structured over a long period of time. They are designed to apply in the form of four distinct classes of plant and machinery. Whilst the precise terms of the Regulations⁴⁰ should be considered in detail, these are broadly stated as:

Class 1 Power: Plant and machinery used or intended to be used mainly or exclusively in connection with the generation, storage, primary transformation or main transmission of power in or on the lands and heritages, together with associated list of accessories.

Class 2 Service Plant: Plant and machinery used or intended to be used in connection with services to the lands and heritages or parts of them (other than those used mainly or exclusively as part of manufacturing operations or trade processes), together with associated list of accessories.

Class 3 Conveyance / Communications / Distribution: A collection of items ranging from railway lines to electricity cables and pipelines.

Class 4 Items that are, or are in the nature of, a building or structure: Two tables (Tables 3 and 4) contain lists of items from which, if the item is considered to be a building or structure, or in the nature of a building or structure, it will be rateable. Note items contained within Table 4 only are further qualified such that the named items are rateable unless they are less than 400 cubic metres and are readily capable of being moved from one site and re-erected in its original state at another without the substantial demolition of any surrounding structure.

3.2.3 The various classes within the plant and machinery regulations are not mutually exclusive, each item of plant must be separately tested against each and every class and, should it fall within any one of the four classes, it will be considered as rateable.⁴¹ Thus, the method of applying the above classes is to separately consider each item of plant, or parts thereof, in turn against each of the four classes. Therefore, an item of plant such as a boiler should firstly be considered as to whether it falls within class 1 (i.e. it is used for the generation of power); followed by class 2 (whether it is used as service plant); followed by class 3 (whether it is used for any of the specified purposes); followed by class 4 (whether it is a listed item and whether it is in the nature of a building or structure).

3.2.4 The classes are carefully structured to capture specific items and elements of plant and machinery within the different classes. Thus, taking our boiler example, should it be rateable under class 1 then the various elements listed in Table 1 together with items listed in the List of Accessories will all be rateable. If it is considered to be

⁴⁰ The Valuation for Rating (Plant and Machinery Regulations) (Scotland) Regulations 2000

⁴¹ Assessor for Tayside Valuation Joint Board v Old Faskally Farming Company and Others 2016.

rateable under class 2 the various elements listed within Table 2, together with items listed in the List of Accessories will all be rateable. If it is not rateable under class 1 or 2, but is rateable under class 4 then only the parts of it which satisfy the test of being in the nature of a building or structure will be rateable.

3.2.5 Note also, in considering items of plant and machinery under the different classes, valuers are not constrained by narrow, technical description of items. Rather it will be appropriate to apply a wider, non-specialist, application of language to items of plant and machinery. Further, it should be noted that the regulations do not attempt to define plant and machinery by reference to particular industries.⁴²

3.3 Class 4 – Items which are, or are in the nature of, a building or structure

3.3.1 In considering class 4 and whether items of plant and machinery are to be considered as in the nature of a building or structure there are generally 4 tests that will be applied.⁴³

- (i) The way in which the item is constructed.
- (ii) Its size and weight
- (iii) The degree of attachment to the land or other structures and
- (iv) Its degree of permanence.

3.3.2 Generally works of a civil engineering nature – including items constructed on site from concrete / brick / stone are considered to satisfy the tests (foundations, settings, supports etc. as listed in Table 3) and will be regarded as rateable under class 4 regardless of size.

3.3.3 Note also that parts of an item of plant and machinery may be considered as being in the nature of a building or structure even though the principle item is non rateable⁴⁴ (e.g. the foundations for tanks which may, in themselves, not be rateable).

3.3.4 It is important to note that the concept that plant and machinery which is in the nature of a building or structure should be subject to rates in the same way as a building was recognised and endorsed by the Wood Committee – see the Wood II Committee Report S5.35

“On the grounds of fairness, therefore, we conclude that a “tools of the trade” exemption ought to be introduced in respect of generating plant and machinery belonging to power generators. However, Class 4 should continue to apply and some of their tools of the trade will be brought into rateability under that class. This would achieve equality of treatment with other industrial undertakings. Since some of these items are not

⁴² Shell Uk Ltd v Assessor for Grampian Valuation Joint Board 2000

⁴³ Valuation Office Agency – Rating Manual – Volume 4 – Section 3 – Practice Note 1

⁴⁴ Monsanto Plc v Farris (VO) 1998

specifically mentioned in Class 4, the 1994 Regulations will need to be amended to incorporate them under Tables 3, or 4, as appropriate.”

3.4 Exemptions to the P & M Regulations

3.4.1 It will be noted that a number of exemptions have been built into the plant and machinery regulations over the years. These include e.g. plant and machinery which has micro generation capacity – exempted from all classes, and excepted plant and machinery (i.e. plant and machinery for the generation, storage, primary transformation of power or the main transmission of power) used or intended to be used mainly or exclusively for sale to consumers – exempted from class 1. Great care requires to be taken with the application of these exemptions and the precise wording and circumstance of every situation will have significant effect.

3.4.2 Clearly, the application of these exemptions gives rise to a number of inconsistencies in the rating burden. Micro generating plant with the capacity to produce 50 kilowatt of electricity will benefit from exemption whereas similar plant with a capacity to produce 51 kilowatts will not. Generating plant which produces electricity wholly or mainly for distribution to consumers (i.e. is supplied to the grid) will benefit from exemption from class 1 whereas the same plant generating electricity for a single user, or for the occupier’s own use, will not.

3.4.3 An example of the above may be considered in relation to wind turbine generators. For sites which are generating electricity for distribution to consumers, the elements which will be rateable are; the site, buildings, site improvements (fencing, paths, roads), all works associated with connection to the grid, the foundations and the tower. The nacelle (the rotating element at the top of the tower that houses the generator), the generator and the turbine will be considered to be non-rateable. Where the same facility generates electricity for a single user (e.g. to power a factory) all the elements, including the nacelle, generator and turbine, will be considered to be rateable and thus attract a significantly higher Rateable Value.⁴⁵

4 The issues that arise with the application of the P & M Regulations to the various components of a small hydro scheme

4.1 General

4.1.1 One general point noted above is that all civil engineering components are normally considered to be rateable and this tends to be taken “as read” by all parties in the rating sphere. That specifically applies to all foundations, settings and supports as

⁴⁵ Scottish Assessors’ Association Utilities Committee Practice Note 2 – Valuation of On-shore Wind Turbines.

identified in class 4 table 3. Clearly, in the case of hydro schemes a significant proportion of the capital expenditure is in civil engineering.

4.1.2 A second general point noted above is that the exemption in class 1 for “excepted plant and machinery” only applies where “the power is mainly or exclusively for distribution for sale to consumers”. The effect of this restriction is that, should there be an example of a small hydro scheme supplying a single user, or where more than 50% of the electricity is used for internal consumption rather than being exported to the grid, then that exemption will not apply. Typically in the case of wind or solar that results in more parts being rateable (and of course higher rateable values being produced) if the turbine or panels mainly serve the occupier’s own purposes such as may be the case in a factory. It is not known if this situation arises in the context of small hydro schemes.

4.1.3 A third general point that arises is the interpretation on the exemption contained within class 1 of the plant and machinery regulations. This issue revolves around the fact that the exemption, as expressed related to plant and machinery **used or intended to be used “for”** the generation of electricity wholly or mainly for the sale to consumers. In contrast, in order to be considered rateable, the items within the list of ancillaries set out within Table 1 of the Regulations applies to plant and machinery are those ... **used... “in connection with”** It is not clear whether there is a distinction to be drawn between the two terms.

4.2 The main elements of a small hydro scheme and the issues that arise:

4.2.1 Whilst recognising that each hydro scheme will be significantly different due to the topography of each individual site, there are a number of elements that will be common to all sites. These are identified below, together with the appropriate treatment under the current plant and machinery regulations:

4.2.2 The dam or weir (and if there is more than one water collection point the pipes connecting one to the other):

Clearly the dam or weir is rateable as a structure, together with all the civil works attached to it. In terms of class 4 a dam is specifically listed in table 3 [a weir is defined as a type of dam]. Any pipes connecting one collection point to another will be rateable under class 3 (g).

4.2.3 The intake chamber (header tank) and trash screens / filters etc.:

The intake chamber / header tank will be a reinforced concrete tank, poured in situ and buried underground. It is clearly in the nature of a structure in terms of class 4 (tanks, chambers and vessels are all listed).

The trash screens and filters, if they are metal and removable, would not, in themselves, be considered to be in the nature of a building or structure and would not be rateable under class 4.

4.2.4 The pipeline (penstock):

The pipeline or penstock will be a length of pipework (normally of HDPE, GRP, uPVC or, especially in the lower reaches, metal) which will usually be buried underground in lined bed up to 10 feet below the ground surface. Each small hydro scheme will require a different length and specification of the pipeline / penstock depending upon the length of run, the number of direction changes and the fall in height of that location as this will affect the forces that the volume and pressure of water will create.

This is one of the significant areas of debate in the rating of small hydro schemes. Assuming the exemption to class 1 applies then, if taken to be a penstock, it is arguable the pipe / penstock should not be rateable. A penstock is not a named item within class 4.

The contrary argument is that “penstock” as originally applied to the regulations in 1925 (in England and subsequently adopted in Scotland) was intended to represent a “sluice gate” or “valve”. It seems to have been only in the 1980s that the term penstock was adopted to apply to a pressurised pipe leading to a turbine – firstly in America and latterly in the UK within the hydro industry. There is no recorded detail of this changing use of language being picked up and there has been no change to the use of the word “penstock” in the regulations since 1925.

In terms of BS7775, penstock is defined as a piece of equipment used to isolate and/or control the flow or level of a liquid consisting of a sliding door moving over the aperture in a frame which is secured onto a structure. Per Ham Baker, a company established in 1884 and acknowledged as a leading designer and manufacturer of penstocks and flap valves, a penstock is a sluice gate.

The only reference to penstock in the Wood II Report is in the context of the water industry in Table 5 which includes “Valve and Penstocks”.

If not a penstock (or perhaps even if a penstock) it could be the case that as a pipe conveying water, the pipe would be rateable as a pipe or pipe-line under class 3 (g).

Note, it is difficult to see a difference between the pipeline / penstock conveying water to a turbine and any number of other pipes that are clearly rateable e.g. those carrying oil from the North of Scotland to refineries in the central belt.

Note also, in larger hydro schemes the penstock may be of concrete construction and an integral part of the dam.

4.2.5 The thrust blocks and other civil engineering aspects required to contain / support the pipe or penstock (including any pigging chambers etc.):

Thrust blocks are blocks of reinforced concrete poured in situ. These are individually designed and specifically constructed to suit their particular location along the length of the pipe / penstock in order to support it and to contain the pressures generated. In particular, thrust blocks are used where the pipeline changes direction. Each small hydro scheme will be different in the number, location and design of the individual thrust blocks required.

These are clearly in the nature of a structure (foundations or supports) and rateable within class 4.

4.2.6 The powerhouse or turbine house, including the foundations which may serve as a thrust block and will be designed to accommodate both the pressures of the penstock and also support / retain the turbines and generators:

A power or turbine house will be constructed at each site. Whilst in some cases these may appear to be basic structures this is not the case. The foundations and supports require to be substantial to support the turbine & generator and to contain the forces of the water exiting the pipe / penstock at high pressure and turning the turbine. Each powerhouse will be specifically designed to suit the circumstances of that particular situation. In many cases the powerhouse will require, for environmental impact reasons, to be of a sophisticated design, and frequently either fully or partly buried underground. Noise reduction measures may also be required.

A powerhouse is clearly rateable as a building (including the foundation / thrust block, which is an integral part of the building). Buildings are the one of the fundamental components of the definition of “lands and heritages” as defined in S42 of the 1854 Act. It is difficult to see how a powerhouse could be excluded from rating by any change to the plant and machinery regulations without further legislation to amend the definition of lands and heritages.

Even if the substantial thrust block element of the foundation were not rateable as part of the building it would be rateable in its own right as being in the nature of a structure under class 4.

4.2.7 Service plant serving the power house (i.e. heating, ventilation, electrics etc.):

Any such service plant contained within the powerhouse will be rateable under class 2.

4.2.8 The turbines and generators:

Turbines and generators will be designed and fitted within each site. They will be mated to the floor and supporting foundations of the powerhouse, which will be specifically designed to receive that particular type of turbine / generator.

Typically, turbines and generators have a long life expectancy (circa 70 years) with limited maintenance. In some instances it will be possible to remove the turbine / generator should major repair or replacement be required and in these situations it will be common for a crane or gantry to be incorporated within the design of the power house to facilitate their removal.

In other situations the turbine and generator may be installed and mated to the foundations of the power house during its construction and the walls and roof of the powerhouse built around them. In these situations it is not possible to remove the turbine or generator and any maintenance or repair must be undertaken in-situ.

This is the second significant area of debate in the rating of small hydro schemes.

Turbines and generators may be either rateable or not depending upon the individual circumstances. Turbines and generators are listed in class 4 table 3 so (assuming they are exempt under class 1 as “exempted plant and machinery”) they may nevertheless be rateable under class 4 if they are in the nature of a building or structure.

The tests for what is in the nature of a building or structure are noted in S3.3.1 above. Turbines and generators are clearly designed to have a long life and are commonly expected to be in situ for 70 years or more. They are mated to purpose designed and built foundations specifically intended for that turbine / generator in order to secure the turbine / generator and deal with the forces exerted on / by it. The turbine / generator may or may not be removed for servicing over their 70 year life span and indeed in a number of cases they cannot be removed at all – e.g. where they are installed and the power house is built around them.

There is a judgement to be made in each individual case as to whether the turbine / generator meets the test of being a structure and it may be that different situations give rise to different outcomes.

4.2.9 Switchgear etc. within the power house:

Transformers, switchgear etc. are generally considered to be non-rateable.

4.2.10 The Tailrace:

The tailrace is a pipeline that takes the water (once it has passed through the turbine) and returns it to a river or burn. Generally, these will be of concrete construction and of quite wide bore as it is desirable that the water is not under pressure when it is returned to the river / burn. The distance from the powerhouse to the point where it returns to the river / burn will vary from location to location.

The tailrace may be an integral part of the foundation of power or turbine house and that element will be rateable either as part of the building or as a foundation / setting / support. In so far as the tailrace may extend beyond the powerhouse it will be rateable as a pipeline under class 3(g).

4.2.11 Wires / poles (and any foundations & supports for them) that transfer the electricity to the grid:

A set of wires, either underground or supported by poles is required to transfer the electricity generated to the grid. The distance from the powerhouse to the nearest possible grid connection will vary from location to location.

The treatment of the wires /poles etc. transferring electricity from the powerhouse to the connection into the grid is the third significant area of debate in the rating of small hydro schemes.

There is no question that the wires / poles etc. are rateable under class 3 c) and d). The area of debate is who is the rateable occupier? Are these in the occupation of the hydro operator or are they in the occupation of SSE or another electricity company? There seems to be a lack of clarity over the terms of agreements with electricity companies and it is not clear whether all hydro schemes have the same type of agreement. Responsibility for wayleave payments may be of assistance.

NB this is primarily a question of who is the rateable occupier rather than an issue that can be addressed via the plant and machinery regulations.

5 The possible methods of valuation that may be applied to hydro schemes of valuation and issues arising there-from:

5.1 General

5.1.1 There are three recognised principles upon which valuation for rating purposes may be undertaken. These are the comparative principle, the contractors principle (now known as the contractor's basis) and the revenue principle (now known as the receipts and expenditure method). Each of these principles is described in more detail below. The issues that arise in relation to the valuation of small hydro subjects are also set out in each.

5.2 The comparative principle

5.2.1 The comparative principle is based upon the proposition that a figure of rent which has achieved wide acceptance in the open market is the best indication of the annual value of the subject to which it relates. It is widely accepted that, where sufficient comparable evidence is available, which can be appropriately adjusted to equate to the statutory terms, and for which reasonable adjustments can be made to equate the property with the subject under consideration, it will provide the most reliable estimate of rental value for that subject.⁴⁶

5.2.2 It is the hypothetical rent of the subjects on the statutory terms that is being sought. Therefore, the actual rent passing on the subject concerned, although of significance and an important consideration, is not determinative of the Rateable Value. Rather a basket of evidence should be analysed to arrive at the rent which a hypothetical tenant would pay to a hypothetical landlord for the subject concerned.

⁴⁶ Armour on Valuation for Rating – 5th Edition S19-19

5.2.3 Appropriate adjustments should be made to each rent being considered to bring it in line with the statutory assumptions. Further adjustments should be made to reflect any differences between the subject for which the rent is passing and the subject to be valued for rating purposes (i.e. both differences in location and in terms of the physical characteristics) before appropriate comparisons can be made.

5.2.4 It is of critical importance in undertaking any valuation for rating purposes that it is the annual value of the whole of the rateable lands and heritages that should be assessed. Therefore, any rent for a comparative subject which does not reflect all of the rateable elements of the subject under consideration must be suitably adjusted to reflect the presence of those elements.

5.2.5 It appears to be accepted by the British Hydro Association that there are no rents available for complete hydro schemes which cover all of the rateable elements. The rents which are available appear to relate only to land and the right to extract water from the river / burn. There is no element of rateable plant or indeed the powerhouse whatsoever included in these rent being paid and clearly additions will require to be made to these rents to reflect any rateable plant and machinery.

5.2.6 In some cases the available rents may suffer from one or more of the following deficiencies:

- (i) A number of the available rents do not cover the whole of the land and / or water extraction rights required. This is frequently the case where the hydro operator has developed the scheme on some or all of the land which he already owns. Leases may only be entered for the parts of the land and water rights that are not already in the occupation of the operator.
- (ii) A number of the available rents are not arms-length agreements and have not been tested on the open market. Rather a significant number of rents are between related organisations, often with common directors – particularly where the land owner has established a trust to operate the hydro scheme.
- (iii) Some of the rents demonstrate a two-tier level of ratio to income generated. These rents may adopt a lower percentage – say 5% or 8% for the first 5, 10 or 15 years (whilst the operator recovers some of their investment) with a higher percentage thereafter. This scenario, which presumably derives from the related nature of the parties to the agreement, is not one which matches the rating hypothesis – i.e. that the subjects are complete and vacant at the point at which they are made available to the open market.

5.2.7 Whilst the above deficiencies will require an individual rent to be treated with caution (or perhaps suitably adjusted), it is not suggested that these rents could not, potentially, assist to establish the rental value of the site.

5.2.8 The British Hydro Association has indicated that where rents are available (i.e. for land and water extraction rights only), these tend to demonstrate that rents equate to 10% of income generated. However, rents which have been made available to Assessors demonstrate rates between 5% and 20%.

5.2.9 It is not uncommon to determine the rateable value of a subject by adopting a land rate from available rental evidence and adding the value of the other parts, which may be determined on the contractor's principle as set out below.

5.3 The contractor's principle

5.3.1 The contractor's principle of valuation (or contractor's basis of valuation) is frequently employed when there is insufficient rental information on which a comparative valuation may be based. The purpose is "to see what it would cost an owner to produce the hereditament in its present form and then to see what a tenant, who had not himself the money to be an owner, would give the owner yearly, it being assumed that that sum must bear some relation at ordinary rates of interest to what has been spent."⁴⁷

5.3.2 There are 5 steps involved in the modern application of the contractor's principle⁴⁸. These are:

- (i) Stage 1 – Estimate the replacement cost of the site works, buildings, rateable structures and rateable plant and machinery.
- (ii) Stage 2 – Apply any appropriate adjustments and allowances to reflect the difference between cost and effective capital value (ECV).
- (iii) Stage 3 – Add the value of the land to arrive at total ECV.
- (iv) Stage 4 – Apply the appropriate decapitalisation rate to the total ECV.
- (v) Stage 5 – Stand back and look at the result of Stage 4 and make any further adjustments considered appropriate.

5.3.3 In previous revaluations much debate has been generated over the appropriate decapitalisation rate to be applied at stage 4. Since 1990 decapitalisation rates have been set in statute with the current provisions being contained within The Valuation for Rating (Decapitalisation Rate) (Scotland) Regulations 2016.

⁴⁷ Lord Dunedin – Port of London Authority v Assessment Committee of Orsett Union 1920.

⁴⁸ RICS professional standards and guidance, UK - The Contractor's Basis of valuation for rating purposes, 2nd edition, August 2017.

5.3.4 Whilst no detailed discussions have been undertaken with the hydro industry on this aspect, it may be feasible to undertake a valuation based upon an element derived from passing rental values for land and water extraction rights with the various items of rateable plant and machinery (and buildings) being valued on the contractor's principle (i.e. an adjusted rentals valuation).

5.4 The Receipts and Expenditure Method (formerly known as the Revenue Principle)

5.4.1 As noted within S2.4. above, the receipts and expenditure method of valuation is applied in some situations where there is no comparative rental evidence available. The traditional explanation of the receipts and expenditure method of valuation is 'A method to ascertain the rental value of a property, for the purposes of rating, by reference to the receipts and expenditure, adjusted as necessary, of an undertaking carried on at that property'⁴⁹.

5.4.2 The methodology involves the following steps⁵⁰:

- (a) Gross Receipts should be determined by taking into account all income reasonably able to be derived from occupation of the property.
- (b) The proper Cost of Purchases made in order to produce those receipts should be deducted to determine the Gross Profit.
- (c) From the Gross Profit the Working Expenses should be deducted to determine the Divisible Balance.
- (d) The Divisible Balance is the sum available to be shared between the landlord and the tenant. It comprises two main elements:
 - (iii) The Tenant's Share – to provide a return on any tenant's capital employed and a reward to the tenant for his venture reflecting the extent of the risk and the need for profit. This is deducted from the Divisible Balance to leave:
 - (iv) The Landlord's Share, i.e. the rent payable (which becomes the rateable value).

⁴⁹ The receipts and Expenditure Method of Valuation – A guidance Note by the Joint Professional Rating Forum 1997. S2.5.

⁵⁰ S4.2 As above

5.4.3 It is considered particularly appropriate to use the R & E method where receipts are derived from some monopoly attaching to the property. Monopoly value may be derived from law, e.g. by way of licence, or from geographical location or sometimes from a combination of both.⁵¹

5.4.4 It may be considered that small hydro subjects are well suited to valuation by means of the receipts and expenditure method. This is particularly the case as the income that may be generated is inextricably linked to the geographical and topographical features of the site. These geographical and topographical features will directly determine the volume of water which can be collected and diverted through the hydro system. The fall in height between the header tank or intake chamber and the powerhouse will determine the force at which the water can power the turbine and thus the amount of electricity generated.

5.4.5 The extent of infrastructure which is required to produce the income, and the cost of installing that infrastructure, will be also be determined by the geographical and topographical features of the precise location. This will include; the nature and cost of constructing the dam or weir required, the length and specification of the pipe-line or penstock required, the number, size and location of thrust blocks required, the location and design of the power house, the length of the tailrace and the length of posts / wires required to connect the scheme to the national grid.

5.4.6 It is the above features which suggest that the receipts and expenditure method of valuation is the most appropriate method in the case of small hydro subjects.

Alastair Kirkwood
Assessor and Electoral Registration Officer
Tayside Valuation Joint Board

30 May 2018

⁵¹ The receipts and Expenditure Method of Valuation – A guidance Note by the Joint Professional Rating Forum 1997 S3.5.

ANNEX E: LINKS

Practice Note

https://www.saa.gov.uk/wp-content/uploads/2018/04/Hydro_R2017_UC04.pdf

P&M Regulations

Rating of Plant and Machinery: a report by the Wood Committee:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/271981/2170.pdf

The Valuation for Rating (Plant and Machinery) (Scotland) Regulations 2000:

<http://www.legislation.gov.uk/ssi/2000/58/made/data.pdf>

The Valuation for Rating (Plant and Machinery) (Scotland) Amendment Regulations 2008:

http://www.legislation.gov.uk/ssi/2008/360/pdfs/ssi_20080360_en.pdf



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