

SCSI Professional Guidance

# Valuation of Renewable Energy Installations

1st edition, Information Paper



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## Foreword

In recent times, the development of renewable energy projects in Ireland have emerged following policy decisions to reduce Ireland's reliance on imported fuels to generate electricity. A concerted effort has been made to harness the resources such as wind, water and solar energy for energy production and this can be seen throughout the country.

Given these recent transformations, there is an increase in the requirement for specialist valuations to be carried out by chartered surveyors.

This information paper is primarily concerned with the valuation of developments undertaken on a large scale for the regular production of energy for sale. This information paper addresses the capital and rental valuation of freehold and leasehold landed interests for sites where a significant part of the value arises, or might arise, from the potential to generate renewable energy – principally electricity.

The valuer may, however, receive instructions where there is a combination of residential and commercial use (for example, a substantial farm), where a clear view may need to be taken as to whether the installation is mainly domestic or commercial.

We hope that this information paper will assist the chartered surveyor when carrying out a valuation and should be used in tandem with the most recent edition of the RICS Valuation – Professional Standards (RedBook).

### **Stephen Kavanagh MSCSI**

Rural Agency Surveying Professional Group Chairperson

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## SCSI/RICS Information Paper

This is an information paper (IP). Information papers are intended to provide information and explanation to SCSI / RICS members on specific topics of relevance to the profession. The function of this paper is not to recommend or advise on professional procedure to be followed by members.

It is, however, relevant to professional competence to the extent that members should be up to date and have knowledge of information papers within a reasonable time of their coming into effect.

Members should note that when an allegation of professional negligence is made against a surveyor, a court or tribunal may take account of any relevant information papers published by SCSI / RICS in deciding whether or not the member has acted with reasonable competence.

## Document status defined

SCSI / RICS produce a range of standards products. These have been defined in the table below.

Document status defined		
Type of document	Definition	Status
SCSI/RICS practice statement	Document that provides members with mandatory requirements of the Rules of Conduct for members	Mandatory
SCSI/RICS code of practice	Standard approved by SCSI/RICS that provides users with recommendations for accepted good practice as followed by conscientious surveyors	Mandatory or recommended good practice (will be confirmed in the document itself)
SCSI/RICS guidance note	Document that provides users with recommendations for accepted good practice as followed by competent and conscientious surveyors	Recommended good practice
SCSI/RICS information paper	Practice based information that provides users with the latest information and/or research	Information and/or explanatory commentary

# 1. Introduction and scope

## 1.1

This information paper addresses the capital and rental valuation of freehold and leasehold landed interests for sites where a significant part of the value arises, or might arise, from the potential to generate renewable energy – principally electricity.

## 1.2

The Department of Communities, Energy and Natural Resources (DCENR) produced a strategy document called 'Strategy for a Renewable Energy: 2012 to 2020. Under Directive 2009/28/EC, Ireland is legally obliged to ensure that by 2020, at least 16% of all energy consumed is from renewable sources. The Government's renewable energy strategy is set firmly in the global and European context. The objective is to accord with the policy ambitions for renewable energy set by the European Union and the International Energy Agency. These are grounded in the economic, environmental and supply security imperatives to decarbonise energy systems and diversify energy sources by fundamentally de-coupling energy from reliance on fossil fuels.

In 2010, the Government introduced a new support price structure for bioenergy i.e. use of natural materials for the production of electricity. The guaranteed support price under the government's Renewable Energy Feed in Tariff (REFIT) the technologies supported include Anaerobic Digestion Combined Heat and Power, Biomass Combined Heat and Power and Biomass Combustion.

At the time of publication of this information paper, REFIT was not available for solar farms, however, this was being reviewed by the DCENR.

## 1.3

Valuation specific terms used throughout this paper are defined in the Glossary of the current edition of the *RICS Valuation – Professional Standards* (the 'Red Book').

## 1.4

The types of installation that valuers are likely to encounter may be categorised as follows:

- Commercial developments for the production of energy for sale primarily on wholesale terms, e.g. large wind farms, district-wide combined heat and power plants. These tend to be undertaken by specialist developers who enter a lease or a joint venture with one or more landowners.
- Commercial developments for the production of energy primarily for in-house commercial use as a substitute for the purchase of retail energy, e.g. smaller combined heat and power plants or anaerobic digesters, with surplus production available for wholesale purchase. These tend to be undertaken by property owners/occupiers, sometimes in partnership with a specialist developer for a larger-scale scheme where there may be a significant surplus for wholesale sale.
- Domestic scale installations undertaken primarily to reduce domestic external energy consumption, e.g. roof-mounted photovoltaic cells. Early indications suggest that there is as yet no real evidence that such installations increase the value of residential property on their own, and some caution may be appropriate over their impact on the appearance of property.

## 1.5

This information paper is primarily concerned with the valuation of developments undertaken on a large scale for the regular production of energy for sale. The valuer may, however, receive instructions where there is a combination of residential and commercial use (for example, a substantial farm), where a clear view may need to be taken as to whether the installation is mainly domestic or commercial.

## 1.6

Property may also be classified according to whether the investment is simply in the landed legal interest on which the development is sited, or if it consists of the land and installation in its entirety – that is, the entire business asset. Option agreements may also need to be valued, especially where they may be of significant value in their own right. The legal interest from which energy installation leases are granted may, for valuation purposes, include long leasehold interests as well as freehold interests.

## 1.7

The principal emphasis of this paper is on the generation of electricity for wholesale supply or internal use using any of the currently available renewable technologies, but the same principles will be broadly applicable to renewable energy installations for the production of heat, vehicle or other fuels, no matter what their scale.

## 1.8

The information paper is not a treatise on the technical aspects of renewable energy production, which can be found in the RICS information paper, Renewable Energy, 1st edition (2009). Nevertheless, a valuer practising in this area should be familiar with the current technological, legal and financial framework for renewable energy production using sunlight, wind, water, anaerobic digestion and biomass, as relevant to the instruction.

## 2. Valuation challenges

### 2.1

Investment in renewable energy generation in Ireland has increased substantially in recent times, however, this investment still lags well below that of other European countries. The investment risks can be substantial and the investment requirements are considerable, as new markets can be volatile. For example, photovoltaic generation can often be deemed as uneconomical, but incentive changes can bring about a more viable solution to ensure that a particular green technology can make a difference.

In the UK, incentive changes were made and this introduced the prospect of much quicker payback periods whereas previously these would have exceeded the life of the assets. This spurred considerable interest in the development of large arrays of photovoltaic cells.

### 2.2

Much of the basic technology of renewable energy production is well-established in some EU countries. Many installations are very specific to a particular site and its characteristics, and reflect local physical and economic conditions. The valuation of sites with future potential for development can pose particular challenges in the earlier stages of the development process, for example before obtaining full planning permission and connection consents.

### 2.3

Taken together, these factors pose a considerable challenge to the traditional market-based approaches adopted by valuers. The process of direct comparison, for example, is unlikely to be appropriate for many site valuations due to inherent variations in the potential output and costs between outwardly similar sites.

### 2.4

Therefore other approaches may be required, including an explicit approach more akin to investment appraisal which considers the financial considerations as evaluated by stakeholders. In these cases, considerable care may be needed to distinguish the particular investment advice needed by the client – an appraisal of worth – from the value that would be placed on the property in the market – the market value. This paper therefore offers advice to valuers on some of the considerations that will be relevant in adapting existing valuation methodology to the requirements of renewable energy installations.

### 2.5

Any market valuation seeks to determine how much a property would sell for in a hypothetical sale, and accordingly involves careful consideration of the position adopted by the hypothetical willing seller and willing buyer in the market. It can therefore be helpful to consider the potential buyer in terms of the categorisation outlined earlier in section 1.4.

### 2.6

Large-scale developers, for example, will almost certainly inform their bid by using a sophisticated discounted cash flow (DCF) approach, where the emphasis is placed on the timing of income and expenses over an extended timeframe. This will be based on assumptions of the developer's own choosing regarding costs,

revenues, inflation, timing, taxation, interest and other factors. However, the outcome of the appraisal process will be an appraisal of investment value, or worth, rather than market value, which is commonly required. Nevertheless, elements of this method are likely to be useful to the valuer in considering the factors that would influence the market value as between a willing seller and buyer.

## 2.7

Small-scale developers, on the other hand, currently seem to consider investments in terms of a simpler payback approach, with a much less sophisticated approach to future cash flows, interest charges, inflation and so on. The practical point of this is that for a larger development, the valuer's start point may be a detailed appraisal of cash flow, whereas this may be less relevant for smaller projects. It is envisaged that as more sales data become available, then this information will become more widely available.

## 2.8

The range of clients will include landowners, occupiers, operators and financiers, and their valuation requirements will be in connection with taxation, compensation and other statutory valuations, as well as finance and other market requirements. The type of client and valuation required will need to be recorded carefully in confirmed instructions and reports. Assumptions and special assumptions may need particular attention.

## 2.9

The following list provides, in no particular order, an indication of the range of clients, purposes and methods that the valuer may face:

- clients: site owners; site developers; site occupiers; finance providers; government and other statutory agencies; receivers
- purposes: loan finance; sale and purchase; option agreements; development appraisals; asset distribution (e.g. probate, estate reorganisation, divorce, winding-up procedures); taxation (e.g. inheritance tax, capital gains tax, rating); business reorganisation; financial statements; compensation for compulsory purchase; compensation to other interests (e.g. tenants)
- valuation methodology: DCF; investment; profits; comparable; residual; depreciated replacement cost (DRC). The choice of method might be indicated by the combination of client and purpose, for example, a developer seeking to buy a site may be guided by DCF appraisals. See also section 3.3.2 for further considerations concerning valuation methodology reporting.

## 2.10

This information paper does not suggest that one method should be used in absolute preference to any other method in particular circumstances.

It is understood valuers will wish to exercise their judgment for the particular circumstances of the instructions agreed with the client and with regard to valuation principles more generally.

## 3. Purpose of valuation and confirmation of instructions

### 3.1 General

#### 3.1.1

It is particularly important for the valuer to obtain prior agreement with the client on the scope of investigations to be undertaken, assumptions and special assumptions. In addition, the information to be provided by the client or from other sources and the extent to which this will be relied on in the formulation of an opinion of value needs to be determined beforehand. As for any valuation, it will also be essential to establish the purpose of valuation based on the client's requirements and instructions.

#### 3.1.2

RICS Red Book guidance note (GN) 1, Valuation certainty, suggests the use of special assumptions and sensitivity analysis to address concerns over confidence and certainty in valuation reports. This advice may be particularly relevant to renewable energy generation, as the resulting valuation may be sensitive to modest changes in assumptions and special assumptions.

It may, therefore, be important for the client and others with an interest in the valuation (e.g. lenders) to understand the impact that the changes in these assumptions will have on the valuation.

### 3.2 Preliminary information required by the valuer

#### 3.2.1 Preliminary information required by the valuer

An early decision will also be needed on the extent of the site for valuation purposes. This may not always be clear from the initial instructions, and little further light may be shed by other documentation in the case of a joint venture. This will also enable the valuer to identify any negative effects of the installation on other elements of the property under consideration, for example the potential damage to visual amenity on an elegant house caused by industrial plant located nearby.

#### 3.2.2

In addition to the information that is always needed by the valuer concerning site, tenure, etc., the following information may also be required:

- lease or other terms
- generating capacity (see below)
- planning and other consents
- power purchase agreements, where available
- assumed duration of generation use
- assumptions regarding after-uses, or continuation and redevelopment.

Regarding general capacity, this may call for comment on the likely reliability of data for a site yet to be developed, or for a comment on the sources of data for a site with an established history of generation. In particular, load or capacity factors (or assumptions) will be important in arriving at an estimate of actual site capacity (as compared with potential site capacity). It can therefore be helpful to record and report the data used for this purpose, or the basis of adopted assumptions.

## 3.3 The valuation report

### 3.3.1

Where the valuation has to comply with the Red Book, the valuer must produce a report that includes the minimum terms set out in VPS 1.

### 3.3.2

In addition to paragraph 2.9 on the choice of valuation methodology, the valuation report may also need to cover in considerable detail the following considerations, particularly where the renewable installation and its site form a substantial component of the reported valuation figure:

- rationale for, and any adaptations of, chosen method(s) of valuation
- the implications of the detailed confirmed instructions for the valuation, the assumptions used, the sources and reliability of data, and the extent to which data have or have not been verified independently by the valuer
- the sensitivity of the final valuation figure to the assumptions used, and to verified and unverified data. This may in turn point to the need for some commentary on the level of risk that may be associated with the valuation itself.

## 4. General principles of valuations applicable to renewables

### 4.1 Direct comparison

#### 4.1.1

The most useful evidence for any instruction that requires a market valuation is direct transactional evidence, i.e. comparables. For renewable energy projects, the challenge will likely be that each one is unique and the added financial value of any improvements may differ substantially. This is a common problem with using the comparable approach, and with more established classes of property in more mature markets, valuers are well versed in the adjustment of market evidence to the appraisal of the subject property. However, it is too early to say whether the property market for renewables will develop to this stage. For now, it would be prudent to be wary of an overly simplistic approach to comparative analysis.

#### 4.1.2

Nevertheless, there may be individual elements of the valuation which, as part of the larger exercise, do lend themselves to direct comparison. This could include the value of access rights, or if it arises the deleterious effect of the renewable installation on the market value of nearby residential property within the same estate. Therefore, other approaches will be required, possibly in tandem or as a support approach.

### 4.2 Investment method

#### 4.2.1

The investment method places a considerable emphasis on the determination of appropriate rental levels, which are then capitalised by a market rate of return to arrive at an opinion of value. Nevertheless, an investment approach may be useful where the property under consideration is a freehold subject to a lease, and there is evidence of the rent and the basis on which it has been set. This approach relies heavily on accurate financial data, such as the actual income and expenses including incentives (if any).

#### 4.2.2

The challenges for the valuer when using this method are given in the following paragraphs.

#### 4.2.3

Assessment of current market rent for the property should be in accordance with the Red Book, Market rent. Other approaches discussed below may be useful here.

## 4.2.4

There may be reversionary aspects to consider, for example if the lease allows for conventional rent reviews, the valuer will need to decide on what assumptions to make as to the level of rents likely to be achieved and that reflected the lease terms. Alternatively, rent may be pegged to another index, such as energy prices, in which case the challenge will be how to deal with a varying rent. Another reversionary aspect concerns the assumptions that will be made following the lease expiry. It is likely that a significant part of the investment will be in the plant itself rather than the land. Therefore, great care will be needed over valuation assumptions regarding the ownership of this plant and the requirement for its replacement. These assumptions will also need to be related to the period over which contracts and guaranteed prices will remain in place for the energy produced by the plant. Assumptions over plant life and replacement will, in turn, need to be linked to the terms on which planning permission has been granted.

## 4.2.5

Many planning consents for renewable installations are subject to a time limit. Current practice in the market largely reflects the view that there is no certainty that such permissions will be renewed at the end of their term. This is based on the view that other sources of energy may be much more widely available by then, rendering onshore wind generation or extensive photovoltaic arrays, for example, otiose. Some planning consents may include onerous requirements concerning noise levels, or the lapse of the consent if there is prolonged inactivity. It will therefore be left to the choice of all-risk yield to reflect the risks associated with continuation of the planning consent.

## 4.2.6

Some leases may provide for a stepped rent, where a basic rent is topped up by further payments based on achieved output from the site. However, there are cases where site output has never achieved the levels necessary to trigger the additional payments. Data on the site's historic performance will therefore be important in forming a view on how to capitalise the additional revenue. Where such data is not available (e.g. on a new site) considerable caution may be necessary over the choice of rates at which to capitalise additional rental payments. While the basic rent may be regarded as a relatively secure income (subject to the normal landlord risks of tenant default, void periods, and continuing site liabilities in the absence of a tenant), the level of risk associated with the additional rent might be appropriately regarded as much higher, even to the point where it is discounted entirely. Arrangements like these may best be served by a 'hardcore and layer' approach to the valuation, rather than the more traditional 'term and reversion' or simpler single year's purchase into perpetuity.

## 4.2.7

It is unlikely that the market itself will offer compelling evidence for the choice of yields. These may therefore need to be derived by comparing the level of risk with other potential investment opportunities in property and elsewhere, allowing for the fact that much of the value of the investment is likely to be tied up in plant and equipment that may depreciate rapidly. In addition to usual property and covenant factors outlined in the previous paragraph, the standing and experience of the tenant is also likely to be important. The contrast here would be between a well-established energy company with extensive renewables interest and experience on the one hand, and a new entrant to the market on the other. Clearly the latter tenant will be the riskier proposition and this alone is likely to justify a higher yield. When assuming a lower yield for an operator with a well-established track record, however, regard should also be had to the terms of the lease regarding assignment, subletting or other terms on which operation of the site may be devolved.

### 4.2.8

The choice of period over which to capitalise rental income will also call for careful consideration. The terms of the lease and the contractual requirements for the supply of electricity, the availability of REFITs and the anticipated life of plant and machinery all indicate an investment life of 20 to 25 years, particularly for onshore wind energy. Coupled with consideration of planning permission (see paragraph 4.2.5) this may be the appropriate period over which to capitalise rental income. However, some hydroelectric schemes can be expected to have a much longer working life, and solar photovoltaic cells are required to be capable of operating at 80 per cent of their original efficiency after 25 years, although this does not deal with the question of the reversion, i.e. the longer-term future use of the site. It would therefore seem to imply that electricity generation will be abandoned at the end of the term (except to the extent that this aspect of risk is also reflected in the choice of yield for the site).

### 4.2.9

It may be appropriate in some circumstances to provide sensitivity analysis in order to illustrate the importance of key variables within the valuation. For many clients, this will likely provide a truer indication of their exposure to risk from the investment than a simple statement of a single figure of value. The full presentation of cash flows, even of an indicative nature, may also be helpful.

### 4.2.10

There are usually a large number of assumptions when using the investment method that are based on the valuer's judgment. This judgment will be affected by the valuer's knowledge in this area.

### 4.2.11

The challenges outlined in this section mean that clear reporting of all aspects of the valuation is of paramount importance, so that clients and other users of the report are quite clear about the basis on which it has been prepared.

### 4.2.12

Given the uncertainties surrounding the use of the investment method for the valuation of renewables, the valuer may also have to consider the use of the profits or DRC methods, or for a site not yet developed, the residual approach. These approaches are also more likely to be relevant where the installation is developed and operated by the landowner with no separation of freehold from leasehold interest. Even so, the valuer may need to take care in determining the degree of connectedness between parties, given that some landowners may establish separate ventures for power generation in order to manage their exposure to risk, or for other financial reasons. Therefore, some consideration may need to be given to the extent to which the arrangement represents the terms of an 'arm's length' transaction.

### 4.2.13

The difficulties posed in the application of the investment method may also point to the use of the more explicit DCF approach, not least because detailed assumptions regarding future income and costs can be set out clearly. There are also unknown factors about the technology and the appropriate rate of depreciation in the future.

## 4.3 Profits method

### 4.3.1

The profits method will raise similar issues to that of the investment method. Instead of forming a clear view on sustainable rent levels, a clear opinion on sustainable levels of profit will be needed. Where there is a recent history of successful power generation, it may be relatively straightforward to establish this. An example would be if three years' trading accounts are available, and these can be supported by physical information concerning plant output and costs over the same period.

### 4.3.2

The valuer may need to pay particular regard to the nature of revenue streams and the extent to which contracts or other entitlements would be available to a new purchaser on the same terms, for example. The basis of calculation of depreciation on plant and machinery may also merit close scrutiny, to draw out any differences between the adopted accounting or taxation basis and the likely real useful life of the plant. Information from scheme tenders (successful and unsuccessful) may also be invaluable in understanding the underlying trading value of a scheme.

### 4.3.3

The valuer will then need to form a view on how to capitalise the sustainable profit of the enterprise. The underlying assumptions will be critical and should be fully supported. This may simply be capitalised, or it may be considered desirable to identify rent for capitalisation separately at a different rate from the multiplier applied to profit after rent. It is still too early for the market to have adopted a consistent practice in this regard, and it will therefore be very important for the valuer to be able to explain and justify the chosen basis.

### 4.3.4

Where a clear distinction is to be drawn between rent and profit after rent, the terms of the hypothetical lease underpinning this division will need careful consideration. Key areas for consideration are as follows:

- the apportionment of responsibility for initial capital investment and subsequent maintenance, and the extent to which the rent formula means the landowner is sharing the risk of fluctuating profits from the site
- the relationship between the tenant and landowner to ascertain the extent to which it is a true arm's length transaction.

### 4.3.5

For example, a company may have been established specifically to undertake the investment by the landowner, who has then granted the company a tenancy in order to limit the owner's exposure to risk. In this situation, various other commercial factors may have come into play in formulating the terms of the agreement that would be absent from an arm's length agreement. These may have been influenced by taxation considerations, or by the structure of agreements with plant providers for subsequent service contracts that provide incentives based on plant output or financial performance.

### 4.3.6

In all cases, it will be essential to set out clearly a full description of the terms (legal, financial, physical) under which the operator's interest has been valued, with comment on how these have been addressed in the valuation report. This will need to include a careful description of the terms on which the site itself is occupied, and the extent of that site and occupation for the terms of the valuation.

### 4.3.7

Clear instructions and reporting, as well as unambiguous fully supported assumptions, will be vital if this approach is adopted. As mentioned earlier, the valuer could demonstrate the sensitivity of the valuation to key factors through the use of sensitivity analysis where this would be helpful to the client, or would enable users of the valuation to appreciate more fully the key risks to the investment.

## 4.4 Depreciated replacement cost

### 4.4.1

DRC may need to be considered where market evidence of sales, rents or yields needed for the other methods is scarce or non-existent. However, other methods more directly connected with a site's revenue potential will always be preferable. The use of DRC will need specialist knowledge of renewable generation plant and equipment in order to estimate the cost of modern replacement plant.

### 4.4.2

Although much of renewable generation capacity is relatively new, technological developments may allow for a notably more efficient modern replacement with the potential for considerably higher outputs, lower production costs, or both. This in turn will influence the choice of depreciation rate. Modern plant can have a useful life of 20 to 25 years, and significantly longer in the case of hydroelectricity, but it may be more appropriate to depreciate the replacement cost more heavily in the early years.

### 4.4.3

Advances in new technology will adversely affect the depreciation rate, and allowances should be made for this in the valuation range. For example, a straight-line reduction on plant costing €200,000 over 20 years would leave a DRC of €150,000 after 5 years. In contrast, depreciation based on 10 per cent of the reducing balance would leave a DRC of €118,100 after the same period with a residual value of €24,000 at the end of the 20-year period. This may more accurately reflect the actual depreciation of the asset and may be calculated for any period by use of the formula  $(1-i)^n$ , where  $i$  is the depreciation rate (expressed as a decimal) and  $n$  is the number of years. A depreciation rate of 15 per cent would leave a DRC of €88,700 after 5 years and a terminal value of €8,000 after 20 years. It should also be recognised that some significant elements (for example, inverters) require more frequent replacement.

#### 4.4.4

A value for the underlying site will also be needed, which will often need to be based on the next best alternative use. For rural sites, agriculture or amenity land might be the only alternative use. Despite this, it is likely that the hypothetical owner would expect a premium over agricultural value in order to sell the land for development, and this should be reflected in the choice of value. For more detailed guidance on the application of DRC, please refer to the Red Book.

### 4.5 Residual method

#### 4.5.1

The residual method will require a value using one of the previously outlined approaches for the completed development from which development costs, fees and profits will be deducted. All sensitivities already mentioned will therefore be equally applicable to a valuation based on this approach, with the additional uncertainties over timing of development, securing generation contracts, grid connections and the negotiation of the terms of planning permission.

The determination of 'hope value' by the residual or other methods is likely to be particularly challenging because of these reasons and the risk arising from uncertainty at the earlier stages of consideration of a proposed development.

Therefore, the residual approach is primarily used as a support or check method.

#### 4.5.2

The commentary so far has concentrated on traditional valuation methods and their application and adaptation to the appraisal of renewable energy installations. It is clear that a number of elements in the valuation process may be specific to the site under consideration. In this respect, these approaches may be taking the valuer closer to an appraisal of worth than of market value.

It is therefore important to stand back from the work at all stages and to consider objectively the hypothetical seller and buyer in the transaction under consideration.

#### 4.5.3

This also reflects the general trend towards more explicit approaches and reporting in valuation work, recommendations for which are documented more generally in the Red Book. However, in some instances the task required by the client may be an appraisal of worth for a generation proposal or project, and for this a DCF approach may be required.

## 4.6 Discounted cash flow

### 4.6.1

A DCF appraisal will allow the net present value and internal rate of return of a project to be determined. Considerable input from the client and other advisers is likely to be needed to establish robust cash flows for the appraisal, which will involve consideration of all the sensitivities outlined earlier.

### 4.6.2

A DCF appraisal may be required for a completed project, for example for the purchase of a generating facility, but it is more commonly used as a planning tool in considering the viability and utility of a proposed investment. It is also considered to be an invaluable tool for a detailed appraisal of the potential returns from a site under a number of assumptions. However, the lack of historic performance data adds to the uncertainty of the appraisal, which may dictate the examination of several scenarios of alternative energy outputs, costs, revenue streams, financing and timing considerations. This all serves to emphasise that the net present value is only likely to equate to market value if the DCF appraisal explicitly makes all the same assumptions as those made implicitly and explicitly in the market. The large number of assumptions about unknown factors (e.g. time) may render this approach unreliable in certain scenarios.

### 4.6.3

Considerable caution is therefore urged before drawing any conclusions as to market value from the net present value resulting from a DCF appraisal. Nevertheless, where DCF appraisals are available the valuer may find them very useful as part of the wider evidence base supporting the valuation exercise. For more detailed guidance on the application of DCF, see the RICS guidance note, *Discounted cash flow for commercial property investments* (2010).

### 4.6.4

Underpinning all the methods described in this section is the need for clarity in agreed terms of reference, and for comprehensive and clear reporting of what work has been undertaken and on what terms for the client. Thus, the general message of this information paper is to reinforce the need for valuation practice of the highest standards when advising clients on renewable energy installations.

## 5. Common issues

### 5.1

Currently the valuation of renewable energy installations is an area of limited collective professional experience due to the lack of reliable and transparent market data. This highlights the need for valuers to be very careful in verifying their own analysis of both market information and their choice of methods, if necessary with help from colleagues and renewable energy specialists. This paper intends to help the profession to move forward on a common basis in the development of practice in this emerging area.

### 5.2

The most challenging valuations will be for development proposals for new sites, particularly those put forward by inexperienced site owner- developers. A significant element of this uncertainty and risk is removed when dealing with a very experienced developer and site operator. The most straightforward valuation requirement is likely to be the valuation of a freehold interest that is subject to a lease to a generator with a good track record, on a site with a reliable track record let on simple lease terms. The challenges will be judging the adequacy of the rent and the choice of a suitable yield, investment period and after-use. This information needs to be fully supported.

### 5.3

The valuation task becomes more complex as lease terms become more intricate and as the site owner personally plays a greater part in generation.

For example, stepped rents may require the use of different risk rates to reflect the different risks associated with them. Historic performance data for the site should be of considerable help. For a new site where this is not available, the valuer will need to question whether the higher levels of rent will ever become payable, as experience with other sites indicates that this does not always occur.

### 5.4

Reversionary interests also present the valuer with a challenge. For example, a wind farm on farmland may be let on a 20- or 25-year lease under which the developer pays for all development and connection costs, with responsibility for handing a cleared site back to the owner at the end of the term. Superficially, it may seem appropriate to value the rental income for the remainder of the term, with a reversion to in-hand agricultural use at the end of the lease. However, this raises the prospect that at the end of the term it may be equally attractive to redevelop the site. It would then be appropriate to assume the continuation of the lease for the purpose of the valuation.

### 5.5

Emerging practice seems to favour the term approach over a perpetuity, and therefore longer - term expectations may be implicitly recognised in the choice of all-risk yields for the term valuation. This might be contrasted with some longer-term hydroelectric leases that are for up to 99 years with an obligation on the developer to leave new plant in place at the end of the lease. This length of term is perpetual for all practical purposes. In all cases it is advisable to record carefully the consideration given to statutory consents and their impact on restoration and aftercare of the site.

## 5.6

Injurious effects that the installation has on surrounding assets in the same ownership will also need to be considered by direct comparison, wherever possible. At its most obvious, this will include the impact on heritage assets and residential amenity value, but less evident may be the need to consider mineral rights and the impact of development on their exploitation (below turbine towers, for example). The value of forestry land in the vicinity of wind turbines may also be affected by, for example, requirements for keyhole felling in the vicinity of the turbines. Some agreements may leave detailed 'micro-siting' considerations for later determination, for example within 50 metres of a given position, to allow for detailed site variations. This may in turn have an effect on the siting of cable routes within the site, with knock-on effects on other elements of value for a site.

## 5.7

Valuers may also have to consider the treatment of taxation and incentives in their valuations. The incidence of tax can normally be dismissed in a market valuation as a private matter for the vendor and purchaser based on their individual positions, but some DCF appraisals will take taxation into account. In detailed appraisals, this will be a matter for discussion and agreement with the client, and for subsequent careful reporting. In addition, all the other assumptions or special assumptions that have been used in the appraisal may need particular attention.

## 5.8

The attribution of hope value to a site will reflect the valuer's confidence in the prospects for development of that site, as well as the valuer's judgment that the market would reflect that confidence in the prices offered by willing buyers, acceptable to willing sellers. The assessment of hope value for future renewable energy development may present particular challenges that the valuer will have to face in the pre-planning stage. Confidence can be demonstrated relatively easily for other types of commercial development, for example housing or commercial sites with good planning prospects and no undue obstacles to construction. However, sites for renewable installations are likely to have considerably lower prospects at the earlier stages of the development cycle. The valuer is advised to consider very carefully what progress has been made to date, and what remains to be done before a site is developed and operational.

## 5.9

Key considerations will involve planning permission and other consents (and the various steps in obtaining planning permission), the availability of grid connections and formal contracts with a site operator. Where hope value for renewable energy development can be attributed to a site, it is likely that it will progress in a series of steps, with each subsequent stage heading towards final development and operation. This is in contrast to the steadier upward trend that might be associated with other types of development. It will be largely for the valuer to judge with regard to the individual circumstances, as the market has yet to offer much evidence in this area. In addition, further caution may be needed over the cumulative impact on value that may arise from a number of development proposals in the same vicinity, particularly for wind farms.

## 5.10

Option agreements may be of substantial value in their own right, depending on their terms. While many agreements will have been made for modest consideration, there are others that impose strict and onerous penalty clauses if development does not proceed. In this case, the benefit would be transferrable to a purchaser. The valuer will therefore need to record and report the detailed terms of the option agreement to support the valuation.

## 5.11

Occasionally, the superior interest for consideration may itself be a long leasehold (e.g. a long-term forestry lease, and some trust arrangements on rural estates). In this case, assumptions or verification that the development, or sublease, is within the terms of the head lease may be required, as well as claims by other interests in the property with regard to their own quiet enjoyment of their rights (e.g. sporting interests, or agricultural tenancies and sub-tenancies).

## 5.12

The overriding challenge for the valuer is the need to provide soundly based and reliable client advice in an area where no commonly accepted approach has yet emerged from practice, because of scarce market data for predicted revenue streams that are themselves uncertain.

These factors all place a premium on the need to record instructions and all other matters carefully, for comprehensive client reports and for detailed consideration of each step in the valuation process, with a careful record of the results of that consideration.

## 5.13

The internal review process may be particularly helpful in ensuring that the approach adopted represents a breadth and consensus of professional opinion. As this is an emerging area of practice, firms and valuers may consider it helpful to include consideration of these matters in their lifelong learning plans. These approaches will help to build capability and confidence in the profession for the benefit of practitioners and clients alike.

## 6. Conclusion: forming a defensible view

### 6.1

The appraisal of renewable energy generation capacity presents a challenging valuation task, to deal with a variety of site conditions against a scarcity of market evidence. Therefore, the valuer must pay particular attention to:

- the agreement and confirmation of instructions with the client, and with regard to any other users of the valuation report
- physical, financial and other data
- meticulous recording and evaluation of all sources of information
- careful selection, justification, application and adaptation of methods
- clear analysis of data and sensitivity
- comprehensive and clear reporting.

### 6.2

It is imperative that the valuation is soundly based in every step of the process, and fully and clearly explained in the report, including all assumptions made. This should serve the best interests of clients, practitioners and other users of the valuation by providing the valuation advice they need while ensuring that the prevailing challenging conditions are fully appreciated. With this accomplished, the valuation should enable clients and valuers to proceed with the appropriate level of confidence.

## Other relevant SCSI/RICS guidance notes/ information papers and consumer guides

This annex lists currently published SCSI/RICS guidance notes and information papers that may be of particular relevance to rural property. The list is not exhaustive and members should appreciate that other guidance notes and information papers may be published by the SCIS/RICS after the publication of this guidance note.

For a full list on current guidance notes and information papers, members should visit the practice standards and guidance section of the SCSI website ([www.scsi.ie](http://www.scsi.ie)).

### Professional Guidance / Standards

- A guide to taxation for the Rural Surveyor, Information Paper
- Farm Stocktaking valuations, Information Paper
- Long and short term lease / licence agreement templates
- Private Rented Sector Code of Practice, Guidance Note
- Real Estate Agency Practice Manual
- Valuation of Residential Property in Ireland, Practice Statement

### Consumer / Client Guides

A guide to the rural surveyor

A guide to CPO & compensation

A tenants guide to renting

A clear and impartial guide to letting

A clear guide to selling a home

Property and land boundaries, a checklist for purchasers

A clear impartial guide to boundary disputes

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