

International Valuation Guidance Note No. 8

Depreciated Replacement Cost

1.0 Introduction

- 1.1 The purpose of this Guidance Note (GN) is to inform users and preparers of Valuation Reports of the correct interpretation of the term *depreciated replacement cost* (DRC) in international valuation practice.
- 1.2 For purposes of financial reporting, DRC is considered an acceptable method to arrive at a surrogate for the *Market Value* of *specialised* or *limited market properties* for which market evidence is unavailable.

2.0 Scope

- 2.1 This GN sets out the procedures to be followed by members of the Valuation Profession in adopting a *depreciated replacement cost* basis in connection with
 - International Valuation Standard 2 (IVS 2), Valuation Bases Other Than Market Value, and
 - International Valuation Application 1 (IVA 1), Valuation for Financial Reporting.

3.0 Definitions

- 3.1 *Depreciated Replacement Cost* (DRC). An acceptable method used in financial reporting to arrive at a surrogate for the *Market Value* of *specialised* and *limited market* properties, for which market evidence is unavailable. DRC is based on an estimate of the *Market Value for the Existing Use* (MVEU) of the land plus the current gross replacement (or reproduction) costs of improvements less allowances for physical deterioration and all relevant forms of obsolescence and optimisation (IVS 2, Valuation Bases Other Than Market Value, para. 3.8). DRC may be described either as a valuation methodology or as a basis for value/defined value.

Note: In order to remain consistent with IAS 16, modification of this definition is required. An exposure draft of the new proposed definition will be released as soon as possible.

- 3.2 *Specialised properties*. Properties that are rarely if ever sold on the (open) market, except by way of a sale of the business or entity of which they are a part, due to their uniqueness, which arises from the specialised nature and design of the buildings, their configuration, size, location, or otherwise. Consequently, reliable sale comparables cannot generally be identified for *specialised properties*.
- 3.3 *Limited market property*. Property that because of market conditions, unique features, or other factors attracts relatively few potential buyers.
- 3.4 *Market Value for Existing Use (MVEU)*. The estimated amount for which the land should exchange, with vacant possession, based on continuation of its existing use, between a willing buyer and willing seller in an arm's-length transaction after proper marketing wherein the parties had acted knowledgeably, prudently, and without compulsion. In the context of DRC methodology, the *Market Value for the Existing Use* of land is applied in developing one part of the DRC model. The reported DRC estimate should nonetheless reflect the *Market Value* of the land component based on its *highest and best use*.

It should be noted that International Accounting Standards no longer recognise MVEU and that the MVEU basis of valuation has been taken under advisement by the IVSC.

- 3.5 *Improvements*. Buildings, structures, or modifications to the land, of a permanent nature, involving expenditures of labour and capital, and intended to enhance the value or utility of the property. Improvements have differing patterns of use and economic lives.
- 3.6 *Adequate Profitability*. When an asset has been valued by reference to DRC, *adequate profitability* is the test that the directors/managers of the entity should apply to ensure that the entity is able to support the DRC estimate. Where the directors/managers of the entity find the DRC estimate fails to meet the test of *adequate profitability*, the written down estimate represents the asset's *value in use*.

- 3.7 *Service Potential*. The capacity to provide goods and services in accordance with the entity's objectives, whether those objectives are the generation of net cash inflows or the provision of goods and services of a particular volume and quantity to the beneficiaries thereof. In the public sector, the concept of *service potential* takes the place of the test of *adequate profitability* applied in the private sector.
- 3.8 *Modern Equivalent Asset (MEA)*. A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials, techniques, and design. Replacement cost is the basis used to estimate the cost of constructing a *modern equivalent asset* (Commonwealth usage).
- 3.9 *Impairment*. When recoverable amount declines below carrying amount. International Accounting Standard 36 (IAS 36), para. 5.
- 3.10 *Value in use*. The present value of estimated future cash flows expected to arise from the continuing use of an asset and from its disposal at the end of its useful life (IAS 36, para. 5). The value a specific property has for a specific use to a specific user and, therefore, non-market related.
- 3.11 *Optimisation*. The process of considering physical deterioration and functional/technical obsolescence in a property asset, and determining the most economic means to replicate the asset's service potential. The costs of upgrading and remediation are contingent liabilities to be estimated and disclosed in conjunction with the *optimisation* process.

4.0 Relationship to Accounting Standards

- 4.1 DRC is applied in the financial reporting of property assets as a means of deriving *fair value* where there is insufficient market data to arrive at an estimate by means of market-based approaches.
- 4.1.1 IAS 16, Property, Plant and Equipment, relates to owner-occupied assets as distinct from Investment Property (IAS 40). IAS 16, para. 31, directs Valuers to apply DRC in valuing *plant and equipment* where there is no evidence of *Market Value*. IAS 16 is silent with respect to valuing *property* where there is no such evidence, but DRC is considered to apply.

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- 4.1.2 IAS 36, para. 58, addresses impairment of assets.
- 4.1.3 International Public Sector Accounting Standards (IPSAS) are published by the IFAC. IPSAS 17, Property, Plant and Equipment, paragraphs 42 and 43, prescribe the use of *depreciated replacement cost* for valuing both *specialised buildings* and *other man-made structures* as well as *items of plant and equipment of a specialised nature*.
- 4.1.4 The IFAC Public Sector Committee plans to release an exposure draft on impairment later in 2003. This draft will discuss the measurement of impairment loss in service potential.

5.0 Guidance

- 5.1 **Properties that are generally sold on the (open) market must be distinguished from *specialised and limited market properties*.** (See IVS 2, Valuation Bases Other than Market Value.)
 - 5.1.1 The fact that a property may meet the definition of *specialised property* or *limited market property* does not automatically lead to the conclusion that a DRC valuation basis must be adopted. Even though a property has the characteristics of a *specialised property* or *limited market property*, it may be possible to perform a valuation using the cost approach, market comparison approach, and/or income capitalization approach.
- 5.2 **In the absence of market evidence, DRC is regarded as an acceptable method/basis used to arrive at a surrogate for the *Market Value* of *specialised and limited market properties*. Nonetheless, DRC methodology incorporates market observations by the Valuer with regard to land value, current cost, and depreciation rates.**
- 5.3 **The DRC calculation, while non-market, will be based on criteria that envisage a transaction between rational, informed parties.**
- 5.4 **DRC may be described either as a valuation methodology or as a basis of value/defined value.**

5.5 **DRC methodology requires that two elements of the property asset be valued separately:**

land and improvements

5.5.1 **In applying DRC methodology, the Valuer shall:**

5.5.1.1 **Assess the land at its *Market Value for Existing Use***

5.5.1.2 **Assess the current gross replacement cost of improvements less allowances to reflect:**

- **Physical deterioration**
- **Functional, or technical, obsolescence**
- **Economic, or external, obsolescence**

5.5.1.3 **Assess physical deterioration in the improvements, resulting from wear and tear over time and the lack of necessary maintenance.** Different valuation methods may be used for estimating the amount required to rectify the physical condition of the improvements.

5.5.1.3.1 Some methods rely on estimates of specific elements of depreciation and contractors' charges;

5.5.1.3.2 Other methods rely on direct unit value comparisons between properties in similar condition.

5.5.1.4 **Assess functional/technical obsolescence caused by advances in technology that create new assets capable of more efficient delivery of goods and services.**

5.5.1.4.1 Modern production methods may render previously existing assets fully or partially obsolete in terms of current cost equivalency.

5.5.1.4.2 Functional/technical obsolescence is usually allowed for by adopting the costs of a modern equivalent asset.

5.5.1.5 Assess economic/external obsolescence resulting from external influences that affect the value of the subject property.

5.5.1.5.1 External factors may include changes in the economy, which affect the demand for goods and services, and, consequently, the profitability of business entities.

5.5.1.6 Estimate all relevant forms of remediable deterioration and obsolescence, including the costs of *optimisation* required to rectify the property so as to optimise its productivity.

5.5.1.7 Calculate the sum of the *Market Value for Existing Use* of the land and the Depreciated Replacement Cost of the improvements (current gross replacement cost of the improvements less allowances for physical deterioration and all relevant forms of obsolescence) as the DRC estimate.

5.5.1.8 In the case of plant and machinery, the DRC method of calculation is the same but excludes the land element.

5.6 For reporting purposes, the Valuer shall

5.6.1 Assess the land at its Market Value under its highest and best use;

5.6.2 Report the land value at its Market Value;

5.6.3 Report the difference between the sum of the DRC estimate (para. 5.5.1.6) and the land value at its Market Value (para. 5.6.2) as the value of the improvements.

- 5.7 **Where the Market Value of the land exceeds the DRC estimate, the DRC estimate is redundant and the Valuer shall report Market Value only.**
- 5.8 Examples A and B in the Addendum to this Guidance Note illustrate how the make-up of the DRC estimate, comprising land and improvements, changes for reporting purposes when the existing land use and land value for existing use differ from the highest and best use of the land and resultant Market Value of the land.
- 5.9 **By a process of market observation, Valuers may be able to determine rates of depreciation and remaining economic life estimates for existing buildings and other improvements in comparison with new or recent replacement buildings and other improvements.**
- 5.9.1 The analysed depreciation rates may be all-encompassing or separately derived from the physical, functional, and economic elements of depreciation.
- 5.9.2 Property transactions constantly reflect changing patterns in depreciation rates and remaining economic life estimates due to market influences. Valuers should identify these changes and be capable of using them to support depreciation rates applied in DRC.
- 5.10 **The proper application of DRC will most likely replicate the deductive process of a potential buyer who is seeking such a facility but, with only a limited market for reference, must rely on concepts of cost and utility.** In the application of DRC, the Valuer shall ensure that all **key elements of a market transaction** have been considered. These **include**
- 5.10.1 an understanding of the asset, its function, and its environment;
- 5.10.2 compilation of sufficient information to determine the remaining physical life (to estimate physical deterioration) and economic life of the asset;

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- 5.10.3 knowledge of the business requirements (to estimate functional/technical obsolescence);
 - 5.10.4 knowledge of future industry requirements (to estimate economic/external obsolescence);
 - 5.10.5 familiarity with the class of property through access to available market data;
 - 5.10.6 knowledge of best-practice construction techniques and materials (to estimate the cost of a modern equivalent asset); and
 - 5.10.7 sufficient knowledge to determine the impact of economic/external obsolescence on the value of the improvements where the *Market Value* of the land under *highest and best use* is materially higher than the land value at its current use.
- 5.11 **For a private sector entity with specialised assets that relies on one or more cash-generating operations for its viability, the adoption of a DRC estimate must be subject to the test of adequate profitability of the assets held by the entity.**
- 5.12 **For a public sector entity with no or limited free cash flows, the above test of adequate profitability is replaced by a test of *adequate service potential*.**
- 5.12.1 *Service potential* is measured as the level of productive capacity that would have to be replaced if the entity were deprived of the asset.
 - 5.12.2 National and local governments place particular emphasis on the test of adequate service potential in asset reporting because many agencies utilise public sector assets in the context of a service obligation to the general public.
 - 5.12.3 The test of adequate service potential, which determines whether the asset meets the requirements set for its productive capacity, is generally undertaken by the directors/managers of the entity.

5.13 The valuation conclusion shall be reported in accordance with IVS 3, Valuation Reporting.

5.13.1 The Valuer shall disclose the result as being subject to the test of adequate profitability or service potential, which is the responsibility of the directors/managers of the entity to carry out.

5.13.2 When reporting the valuation of a portfolio of properties comprising a mix of some valued on the basis of *Market Value* and others valued on the basis of DRC, the Valuer shall not aggregate the values of the two classes of properties into a single figure, but shall report the values as two distinct categories.

6.0 Effective Date

6.1 This International Valuation Guidance Note became effective 30 April 2003.

Addendum

Example A: Illustration of (a) the methodology to determine the DRC conclusion based on the Market Value for Existing Use of the land (“Column A”) and (b) the apportionment of the DRC conclusion for reporting purposes based on the Market Value of the land (“Column B”)

In this example, the value of the improvements, in the allocation for reporting purposes, is partly extinguished by the excess in the Market Value of the land over the Market Value for Existing Use of the land.

IMPROVEMENTS		
	10,000 Sq M industrial building	
	Replacement cost: \$5,000,000	
	“Column A” Methodology	“Column B” Apportionment
Replacement cost	\$5,000,000	\$5,000,000
Less		
• Physical deterioration	1,250,000	1,250,000
• Functional obsolescence	1,000,000	1,000,000
• Economic obsolescence	500,000	2,000,000
		<i>Extent of additional economic obsolescence</i>
= DRC of Improvements	2,250,000	750,000
Value of land	3,000,000	4,500,000
	Existing Use of land: Industrial 10 acres @ \$300,000/acre = \$3,000,000 Market Value for Existing Use of land	Highest and Best Use of land: Residential 10 acres @ \$450,000/acre = \$4,500,000 Market Value of land

LAND 10 acres

CONCLUSION

Depreciated Replacement Cost = \$5,250,000

Apportioned between:

- Buildings/Improvements element \$750,000
- Land element \$4,500,000

