



Valuing Plant and Machinery Amidst AI, ESG and Geopolitical Changes

Written on Behalf of RICS

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Valuing plant and equipment that incorporates new technology can be difficult not only because observed data is scarce but also due to geopolitical issues, ESG requirements and the rise of AI.

Plant and equipment represent a significant proportion of the wider tangible fixed asset class around the world, which also encompasses real estate and inventory. [RICS Valuation – Global Standards \(Red Book Global Standards\)](#), outlines that plant and equipment may be broadly divided into four categories: plant/machinery, production process plant, infrastructure and equipment.

However, with the development of new technologies across many sectors, valuation of plant and equipment has like other asset classes experienced challenges – which also affect the way the class is financed.

Valuers Must Work Around Lack of New Technology Data

Nevertheless, it is important to begin valuations of this asset class like those in any other. The first thing therefore is to determine the purpose of the valuation and the relevant basis for doing so.

The approaches applied to new technology should reflect the nature of the asset under consideration, but also have regard to the way similar, established asset types would be valued.

With new technologies, however, there are risks in the way such values are derived and whether they are supportable. For instance, emerging asset classes such as hydrogen power generation and battery storage often lack any mature or even early market data.

The only data that is available is usually provided by the original equipment manufacturer, and perhaps by the customer looking to invest in the asset. With limited or no observable data, then,

how do you value such assets?

The established three valuation approaches of market, income and cost should be applied to the valuation of new technology assets in the same way that they are applied to any other plant, machinery and equipment asset.

However, when considering new technology assets, the application of the chosen approaches needs to be credible and appropriate to the available information on the asset, the sector in which the asset will be used, the asset's function and the consideration of other similar type and established asset technologies. Moreover, the approach taken should include rigorous modelling with structured judgement.

When it comes to assets based on new technologies, changes in asset pricing, uptake of the asset by end users and the growth of suppliers and asset manufacturers must be assessed and regularly reviewed to inform valuations and evaluate whether a market for the asset is becoming established.

Leases Evolving in Response to Geopolitical Context

Another critical factor in play at the moment is that geopolitical tensions and trade tariffs are affecting supply chains and manufacturing, and these can in turn have an impact on plant and equipment asset values.

Any changes in such values, or the perceived effect of policies on these, tend to alter the risk profiles and appetite of those who finance plant and equipment. Such financing is generally by way of funding new equipment or asset-backed lending against used assets offered as collateral.



Increases in costs resulting from policy and geopolitical issues influence the new prices of plant machinery and equipment, and in turn their management, including maintenance, running costs and capital expenditure such as major overhauls and replacement of core components.

These increases can affect the operating life cycle of plant, machinery and equipment and thus the value profile, which is central to the structure of an asset finance agreement.

Lessors are therefore having to re-evaluate risk assumptions and appetite, especially for asset types in portfolios more exposed to these international risks and cost impacts.

Accordingly, lessors are considering how to share such risks with lessees by changing their lease terms, with capital providers looking to evolve their underwriting to address risks, sourcing and operational practices. This does not mean that there are no attractive entry points for value-focused investors, however.

Developing accurate asset value profiles which look to capture the dynamics of the market and the changes impacting on assets allow lenders to better address risks and understand how assets are declining in value and the resulting residual value positions, which affects lease terms. The valuer therefore must ensure valuations consider the key influences in this regard.

While there are challenges in financing certain classes of plant and equipment, many lenders have an increasing interest and appetite for funding renewables and alternative technology plant and equipment.

Asset financing preferences and the sectors in which such assets operate is particular to individual lenders, who will focus on areas that reflect their environmental, social and governance (ESG) approach, policies and commercial targets.

The valuation advice provided to lenders should thus include a comprehensive understanding of the type of asset that the lender is looking to fund and the sectors in which it will be used. Key considerations include:

- the type of technology
- the original equipment manufacturer
- its expected use relative to the sector and other market participants
- similarities with existing equivalent technology
- useful economic life

- asset efficiency and life cycle of the asset – alternative uses and sustainability (materials of construction)
- current demand patterns
- any saturation points in the market
- estimates of the regularity of mark-to-market appraisals.

Valuers must always be conscious of what they are being asked to value: is it a concept asset or still at research and development stage? Are the assets bespoke? And is the technology evolving at a pace whereby current asset models are being superseded relatively frequently?

Changes in legislation and regulation that apply to existing technologies should be understood in the context of any impact on asset valuation.

Regulations such as the [UK Emissions Trading Scheme](#) and the [Medium Combustion Plant Directive](#) both have implications for investment in energy-intensive industries and power generation using established, fossil-fuel-based technologies.

With asset investment in renewable infrastructure such as biomass power generation, solar farms and battery storage ever increasing, valuers need to be cognisant of relevant incentives.

These incentives include government sector payment mechanisms, appropriate asset management and the monitoring of value markers such as cost fluctuations, market establishment and obsolescence, both technological and external, including regulatory and sector economics.

AI Use Should Be Informed by Professional Judgement

Of course, artificial intelligence (AI) is now another vital consideration. AI keeps evolving and is growing in use in the valuation profession, with data processing, market research and advanced modelling capable of powerfully enhancing valuation practice.

AI is notably efficient at looking at vast amounts of data to ascertain any discernible patterns, allowing more in-depth analysis, and automating repetitive and predictive tasks.

Plant and equipment valuations can already present the valuer with vast datasets to analyse, and market research can involve sources spanning UK, pan-European or even global marketplaces.

The gathering and interpretation of appropriate data is crucial for developing accurate valuation models, especially for capital-intensive businesses and extensive asset portfolios. AI can therefore be invaluable in supporting this work.

However, the role of the valuer in interpreting asset-related data, understanding the context, drawing on previous experience from similar work and the application of appropriate analysis and practical methods to the subject valuation will not be replaced by AI, which should be seen as a collaborative tool and not a substitute for the valuer's judgement.

RICS has recently published [Responsible use of artificial intelligence in surveying practice](#), which provides a framework for expert oversight, governance and risk management.

In-depth analysis allows asset-specific data such as capital expenditure, operational costs, condition monitoring and usage to be incorporated consistently and more effectively into the valuation.

But ultimately, the output of such analysis should be combined with the valuer's assessment of key considerations such as macroeconomic factors, market participant activity and sentiment in the sector.

While advances in machine learning will greatly help with the valuation process, enabling more sophisticated techniques and analysis of huge volumes of different data sets, this approach must be combined with the valuer's understanding of the asset and market-specific knowledge, strategic interpretation of a potential transaction, and awareness of the seller's and buyer's intentions.

The plant and machinery valuer needs to evolve from a data calculator to a risk interpreter and strategic advisor, where professional judgement is key.

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