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UK Experience of the Use of Public Finances for Energy Efficiency

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27/03/14

Introduction

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- In the UK, the Scottish Futures Trust has been investigating possible approaches to Energy Performance Contracting within the public sector. As part of this work, an analysis has been undertaken with Deloitte, of potential approaches to Energy Performance Contracting which may be revenue funded:
  - Part A - Commercial and Accounting Impacts Overview, provides a summary of the approaches which may be revenue funded and which types of energy performance measures may be capable of being delivered under these approaches
  - Part B - Technical Guidance on Commercial and Accounting Impacts, sets out the accounting standards and budgeting rules more fully as they would apply to energy efficiency structures.
- DeLoitte have also undertaken work on the use of Green Deal finance in the public sector in the UK. The work was carried out to support the potential deployment of green deal measures and the use of green deal finance for the refurbishment of the public sector estate.

Types of Measures Considered

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Table A1: Measures available under either a Service Concession or an Executory Contract

Measure	Service Concession (inc with public sector equity stake)	Executory Contract
Insulation works integral to the building such as solid wall insulation or cavity wall insulation		Items delivered as full building measures may be considered to be for the delivery of "dedicated assets" and considered service concessions
Contractor manages existing building controls to reduce energy consumption		
Contractor simply runs the building more efficiently		
"Moveable" energy efficiency works such as new heating, cooling or lighting systems		Could be delivered as executory contract if the PGE has no control over the types of measures installed and only specifies the levels of energy savings required
Localised clean energy generation technology such as ground or air source renewable heat, biomass heating or solar PV		Could be delivered as executory contract if the PGE has no control over the types of measures installed and only specifies the levels of energy savings required

Accounting and Budgetary Rules

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Table A2: Relevant Accounting and Budgetary Rules

Potential Commercial Arrangements	Accounting (Resource Accounts)	Budgeting (Departmental Budgets)
Executory contract	Account for expenditure as and when it is incurred. There are no long term liabilities or assets. The accounts may include a disclosure note of the commitments to make payments over the life of the arrangement.	The budgeting will follow the accounting. Expenditure will be recognised as and when incurred on *resource budgets*.
Operating lease[1]	Account for expenditure as and when it is incurred. There are no long term liabilities or assets. The accounts will include a disclosure note of the commitments to make lease payments over the life of the arrangement.	The budgeting will follow the accounting. Expenditure will be recognised as and when incurred on *resource budgets*.
Finance lease	Recognise a liability to pay for the asset over the life of the contract. This will be based on the net present value of the guaranteed minimum lease payments for the asset. Recognise an asset for the items that are being installed by the contractor. Initially this will equal the liability being recognised and it will then be treated in line with other assets of that class.	The budgeting will follow the accounting. The capital expenditure to repay the debt will be recognised on *capital budgets* and the subsequent depreciation (and embedded finance charges) will score to *resource budgets*.
Service concession	Recognise a liability to pay for that asset over the life of the contract. This will be based on the net present value of the guaranteed asset related payments. Recognise an asset for the items that are being installed by the contractor. Initially this will equal the liability being recognised and it will then be treated in line with other assets of that class.	Budgeting treatment is assessed separately and does not necessarily follow the accounting treatment. The budgeting treatment will depend upon the risk transfer from the public sector to the private sector contractor. If sufficient risk is transferred, the payments will be classified as scoring to *resource budgets (similar to operating lease treatment)*. If insufficient risk is transferred the initial capital expenditure will be recognised on *capital budgets* and the subsequent depreciation, service charges (and embedded finance charges) will score to *resource budgets* (similar to finance lease treatment).

Accounting Treatment Decision Tree

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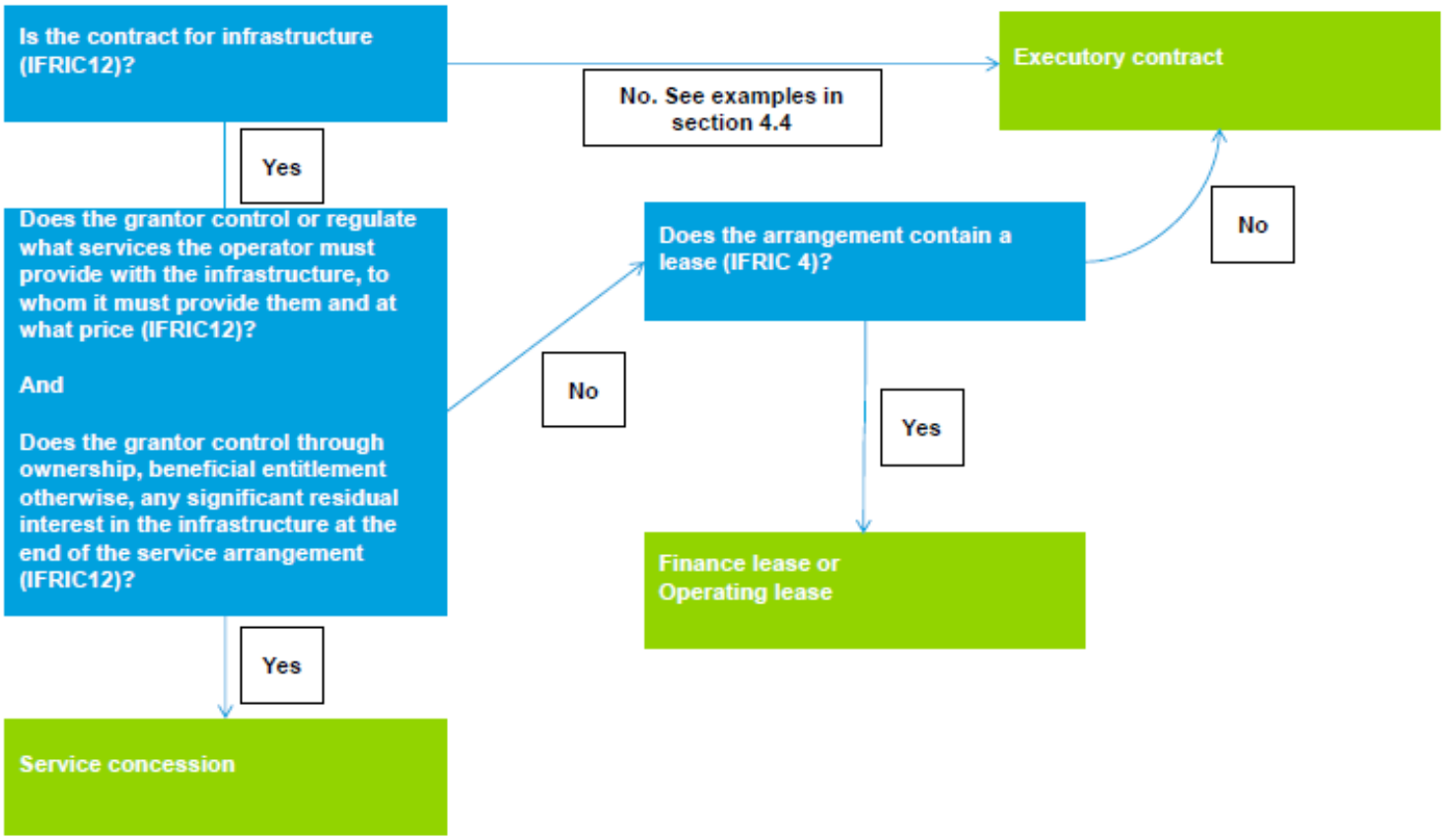
Diagram A1: Accounting Treatment Decision Tree



Example Pros and Cons of Structures (1)

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1. Energy Performance Contract (EPC)

Overview	This is a structure under which the public sector will procure services for energy efficiency from a contractor. Payments will be made to the contractor based on the reduction of energy consumption. *Note that for the analysis in this report, the consideration of EPCs and Energy Service Contract ("ESCO") are on the basis that the PGE would not specify measures that would be delivered.*
Pros	Transfers all the risk of a project to the private sector. Would not appear on the balance sheet of the PGE's accounts and therefore the PGE would not be encumbered with a liability (and corresponding asset). Would not score to Capital Budgets. May stimulate innovation as the private sector (through a bidding process) would be free to suggest newer ways of providing energy efficiency measures.
Constraints	May be difficult as it would need the private sector contractor to take all risk of achieving agreed savings, which may not be commercially acceptable. The more risk that the private sector takes on the higher contract prices are likely to be. PGE loses ability to specify types of measures they wish to see implemented. Would need consensus with internal finance function and external auditors to ensure these arrangements are agreed to be classified as executory contracts. For the avoidance of doubt, an executory contract is a defined accounting principle suggesting the procurer only pays for services as they are delivered.
Possible measures	Insulation works integral to the building such as solid wall insulation or cavity wall insulation; "Moveable" energy efficiency works such as new heating, cooling or lighting systems; Localised clean energy generation technology such as ground or air source renewable heat, biomass heating or solar PV.
Possible property types	Likely to be parts of buildings as access to parts of a building can be restricted as seen fit. Would be applicable to existing buildings as well as new builds.
Contract length	Typically these arrangements are short term and for less than 5 years.
Funding	Private sector bears risk of funding and constructing assets.

Example Pros and Cons of Structures (2)

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2. Managed Energy Services Agreement (covering all utilities including water)

Overview	Under this structure a contractor will pay the building owner's on-going utility bill directly and charges the building owner a fee equal to or lower than the building's historical energy rates adjusted for key occupancy and weather-related variables that are agreed upon prior to finalising the agreement. In this way, the investment fund becomes an intermediary between the building owner and the local utility and generates revenue by capturing the differential between the building's old energy costs and its decreasing energy costs as the building is made more efficient over time.
Pros	Likely to be off public sector capital budgets. Some risk transferred to private sector.
Constraints	Limited control over the types of measures introduced. Price may be higher than some other structures given that the private sector bears much of the risk. Lack of any upside that the private sector would make in reducing energy costs.
Possible measures	Insulation works integral to the building such as solid wall insulation or cavity wall insulation; "Moveable" energy efficiency works such as new heating, cooling or lighting systems; and Localised clean energy generation technology such as ground or air source renewable heat, biomass heating or solar PV.
Possible property types	Likely to be parts of buildings as access to parts of a building can be restricted as seen fit, but could be the whole building as well.
Contract length	Typically these arrangements are short term and for less than 5 years.
Funding	Private sector bears risk of funding and constructing assets.

Example Pros and Cons of Structures (3)

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3. Service concession

Overview	The public sector, though a contract specifies both the energy efficiency services and the assets used to provide those services. This is a step removed from an ESCO or MESA as the public sector has far more control over the types of measures installed. The contractor, possibly through a Special Purpose Vehicle (the "SPV") provides services to the public sector 'on the basis of dedicated assets'. i.e. these assets will be dedicated for the use of the public sector customer and the contractor. For example, the PGE may specify that they would require a boiler or ground source heat pump. The works would be funded through debt and equity raised by the contractor and, possibly including third party finance. Depending on the specifics of the payment mechanism, there may be an element of payment for the contractor making the dedicated assets available for use by the PGE, and an element based on energy efficiency gains/usage.
Pros	Likely off capital balance sheets (but see below re Resource Accounts). Funding is raised by the private sector.
Constraints	Likely to be recorded as on balance sheet for the purposes of Resource Accounts under IFRS.
Possible measures	Insulation works integral to the building such as solid wall insulation or cavity wall insulation; "Moveable" energy efficiency works such as new heating, cooling or lighting systems; Localised clean energy generation technology such as ground or air source renewable heat, biomass heating or solar PV.
Possible property types	Could be both whole building and part building measures and as such would be applicable across much of the SG estate.
Contract length	Service concession arrangements can range from short term contracts of less than 5 years to longer term contracts up to 25-30 years or more.
Funding	External finance raised by the SPV.

Comparison of Instruments

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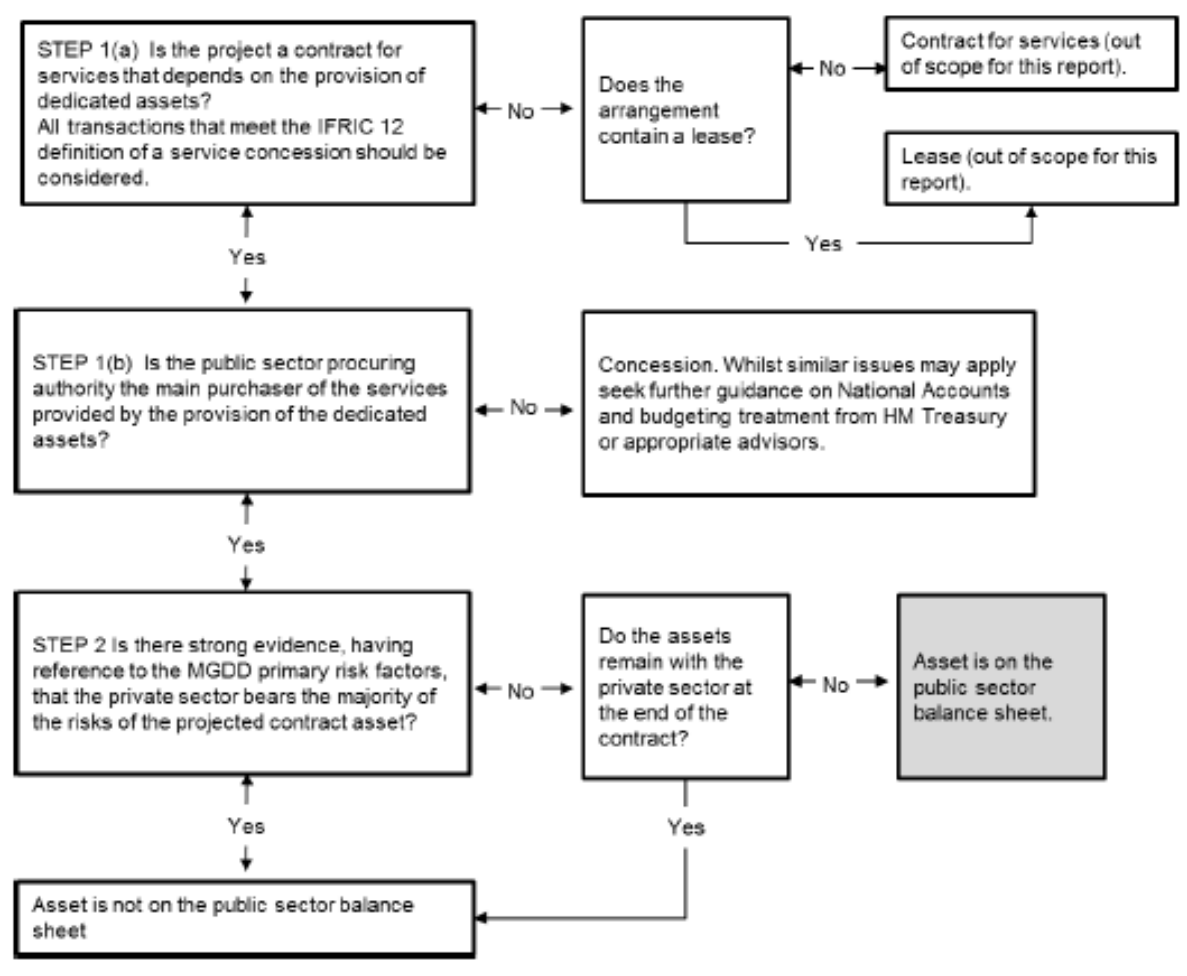
	External finance	Off capital budgets	Carbon reduction	Dovetail with other property strategies	Shortlisted?
EPC	Yes	Yes	Yes	Yes	Yes
MESA	Yes	Yes	Yes	Yes	No – similar to an EPC in that it is an executory contract. As a result, has not been considered further.
Service concession	Yes	Yes	Yes	Yes – whole building long term measures	Yes
Heat offtake agreements	Yes	No	Yes	No – this is a more specific measure	No
Clean energy pre-purchase agreement	Yes	No	Yes	No – this is a more specific measure	No
Finance leases	Yes	No	Yes	Maybe	No

ESA95 Flow Chart



DeLoitte Guidance

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PS/QPS type	Energy consumption pre-Green Deal	Energy consumption post-Green Deal	Green Deal installation - impact on assets	Green Deal installation - impact on liabilities	Green Deal installation - impact on service concession accounting	Accounting for energy meters	Section Reference
Owner/occupier	Executory contract. No balance sheet impact expect in respect of unpaid energy bills	Executory contract. No balance sheet impact expect in respect of unpaid energy bills	Recognise fixed assets reflecting fair value of installation. Depreciated over Useful Economic Life	Liability reflecting repayments due. Specific disclosure potentially required reflecting special nature of the liability	No impact. The absence of specified services in the current contract structure, subject to performance deductions, precludes the use of service concession classification	No balance sheet impact. Meters remain property of Energy Suppliers	3.3
Tenant	Executory contract. No balance sheet impact expect in respect of unpaid energy bills	Executory contract. No balance sheet impact expect in respect of unpaid energy bills	Recognise fixed assets (leasehold improvements) reflecting fair value of installation. Depreciation may be charged over life of the lease	Liability reflecting repayments due. Specific disclosure potentially required reflecting special nature of the liability	No impact. The absence of specified services in the current contract structure, subject to performance deductions, precludes the use of service concession classification	No balance sheet impact. Meters remain property of Energy Suppliers	3.4

Public Sector Restrictions

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Figure 2-2: Public Sector frameworks and restrictions

PS/QPS body	Reporting framework	Other frameworks	Borrowing capacity	Borrowing restrictions	Ratio restrictions?	Potential Green Deal role
Central Government	IFRS as adapted by the FReM	European System of Accounts 1995 (ESA 95) National Accounts Budgetary	Leases Service Concessions	Loans	No	Customer
Local Government	IFRS as adapted by the Code	Prudential Code	Any facility	Set by Prudential Code	Yes	Customer (landlords or tenants) Provider/installer

Thank you for your attention

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