Report on the Commercial Aspects of Local Authority Renewable Energy Production

Executive Summary

DRAFT REPORT FOR CONSULTATION

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1. Introduction

The Sale of Electricity by Local Authorities (Scotland) Regulations 2010 permitted Local Authorities in Scotland to sell electricity generated from specific renewable sources. Previously local authorities were only permitted to sell electricity produced from waste or in association with heat[1]. Equivalent enabling legislation was also introduced in England and Wales.

This legislation has opened up a wide range of opportunities which Local Government are currently developing and exploring, with a number of Councils actively procuring renewable projects. Prior to this additional impetus, a track record already existed of Local Government (and the wider public sector) engaging in the renewable agenda and opportunities (in areas such as renewable heat) to take forward various policy objectives. These included lowering their carbon footprint, tackling fuel poverty, promoting energy efficiency, tackling the sustainability of their local area as well as introducing a potential new source of revenue.

This report reviews the current background to renewable energy development within the Scottish public sector and Local Government in particular. It does not attempt to recreate the plethora of material already available or to replicate the guidance which already exists. Instead, its objectives are to record, through case studies, examples of public sector involvement in the renewables sector and to describe the main commercial structures which may be appropriate for Local Authorities to take forward these schemes, based upon their individual objectives and risk appetite. It provides a high-level route map of the decision processes which Local Authorities may wish to follow in order to determine the most appropriate structures for a given set of objectives and constraints, as well as commenting on a number of approaches to collaborative procurement.

We have summarised below:

- The public sector's experience of delivering renewables projects to date, as demonstrated by a range of case studies;
- the commercial and funding and structures that could be appropriate for Local Authority renewables projects;
- a possible approach or "route map" for local authorities to use to assess and develop renewables opportunities;

[1] Sections 170A (1) & (3) of the Local Government (Scotland) Act 1973

- a review of potential approaches to collaborative procurement ; and
- next steps.

2. Public Sector Renewables Experience

Public sector experience and participation in the renewables area is continuing to develop. There are a few early examples of active participation in this sector by authorities such as Woking Borough Council. However, in most instances the first projects to take advantage of this enabling legislation – such as Bristol's wind farm project – are in a relatively early stage of development or about to move into procurement. Prior to the enabling legislation, many renewable projects were taken forward as part of wider waste management initiatives such as the Greater Manchester Waste Disposal contract signed in 2009, or to meet wider energy efficiency/sustainability objectives. Other sectors in Scotland have been able to progress their renewable energy agenda more quickly, with the Forestry Commission in the process of establishing six development partnerships across Scotland, and Scottish Water progressing a number of renewables initiatives including anaerobic digestion plants, wind farms and hydro schemes.

The development of renewable energy projects is often a response to a wide range of policy objectives such as decreasing an organisation's carbon footprint; climate change drivers; asset utilisation and optimisation; the need to provide a hedge against future energy costs; helping address social issues such as fuel poverty and to generate new sources of revenue. The relative priority of these objectives does influence the approach Local Authorities take to renewables projects in terms of the commercial structures being considered.

The table below lists 14 case studies that are reviewed within this report by commercial structure and the type of renewables technology which has been adopted.

Project	Technology				
	Wind	Anaerobic Digestion	Waste	Solar	Other
Category A – Owner Operator Structures					
Aberdeen Heat and Power *Established in 2002 to develop and operate district heating schemes supplying sheltered housing, municipal buildings and multi-storey flats. Aim to reduce fuel poverty and CO2 emissions.*					√
Fife Council Anaerobic Digestion facility *Procurement for an AD plant to treat organic waste.*		√			
Scottish Water Anaerobic Digestion plant *Operational since 2010 with the objective of contributing to Ministers sustainability agenda and as an electricity price hedge.*		√			
Woking Borough Council[2] *Range of CHP, solar and sustainability initiatives. Established in the late 1990's to address the climate change agenda; tackling fuel poverty and benefit from reduced heat costs.*					√
Category B – JV and Partnership Structures					
Aberdeen Waste *Waste services provided by SITA North East Limited in 2010 included a landfill gas to electricity conversion facility. Motivations were revenue generation and decreasing greenhouse gas emissions.*			√		
Bristol Wind Turbine project *Contract to build and operate two wind turbines which contribute to the policy of Bristol as a "green capital", energy management and CO2 emissions.*	√				

[2] Woking Borough Council's energy centres were set up as a joint venture ESCo but as of 2004 the ESCo became wholly owned by Thameswey Energy Limited which itself is wholly owned by Woking Borough Council.

Project	Technology				
	Wind	Anaerobic Digestion	Waste	Solar	Other
Forestry Commission Wind Farm *Development Partners appointed across six regions in Scotland to develop renewable electricity in accordance with Ministerial aims. Partnership approach procured to maximise benefits compared to arms length structures.*	√				
Greater Manchester Waste Disposal *Authority* *A procurement of waste facilities which included a thermal recovery plant and energy from waste CHP. The aim was to maximise recycling, minimise landfill and address changing legislation and ageing facilities.*			√		
Nottingham Energy Recovery Facility *Procurement of an energy recovery plant to contribute to the energy requirements of a Materials Recovery Facility. Aim was to meet waste management targets and minimise recycling. Contract signed in 2006 but construction delayed until the results of a public inquiry.*			√		
Sheffield Energy from Waste facility *Energy recovery plant to obtain energy from waste and produce heat for the existing district heating scheme.*			√		
Shetland Islands Wind Farm *Development of 127 wind turbines within Shetland to address climate change objectives and security of supply of energy.*	√				
Category C– Land lease agreements and service concessions					
Forestry Commission Inverlael Hydro *Hydro electric facility on forestry commission land.*					√
North Tyneside Solar Panel Project *Currently procuring a partner to install green energy systems into its housing stock and public buildings.*				√	
Stoke on Trent Sustainable Cities Solar Panel Project *Installation of solar panels on council houses to address the city sustainability objectives and address fuel poverty.*				√	

3. Commercial Structures

The commercial structures which have been adopted to date by the public sector reflect the differing objectives of the procuring authorities including their approach to risk, share of the rewards and approach to operations.

The commercial structures have been classified as:

- **Category A – owner operator structures**: significant public sector involvement in the renewable facility which may include involvement in designing the facility; operating the facility and maintaining it over the duration of its economic life. These structures are often progressed where an Authority has a preference for full control or where there is a perceived market failure, for example with low financial returns limiting interest in projects which could address for example environmental or social objectives. These are the models which expose the procuring authorities to the most risk but also potentially to the highest returns;

- **Category B – JV and partnership structures**: where the public sector enters into some form of partnership with the private sector to develop renewable projects. This could take the form of a joint venture partnership through to PPP type structures or a combination of both. These structures are progressed where the public sector wishes to retain an interest in the project (and often wish to transfer knowledge and experience into their internal teams). They demonstrate the most variability, in terms of risk position from equal exposure to all the risks of the renewables developments to very limited exposure for the procuring authority; and

- **Category C –arm's length structures** where the public sector makes no financial commitment to the projects and has more limited risk exposure. Examples include land lease agreements where the public sector effectively leases the land to a renewables developer and receives a land rental (and in some cases a share of the revenue from the electricity generated by the renewable assets developed). An alternative model is a service concession which involves the public sector granting a right to exploit an opportunity such as solar panels on council housing. Arms length structures are often favoured in capital constrained environments where authorities wish to maximise the environmental and social objectives whilst minimising the financial commitments and risk and accepting that such an approach will result in lower returns.

The diagram overleaf indicates the broad categories of commercial structures that have been adopted.

Commercial Structures for Renewable Project

Spectrum	Scenario	Relevant case study
High Risk & Reward Low	**A. Owner/Operator Structures** • Development including grid connections – undertaken by Authority • Design & Construction – often let as a D&B contract with risk transferred to the private sector • Operations including lifecycle – usually self-operated but can be subject to short-term, contracts (e.g. with the contractor for maintenance) • Revenue – price and volume risk retained by the Authority *Majority of risks and rewards retained by the Procuring Authority*	• Scottish Water AD • Fife AD – in procurement • Woking Borough Council – Thameswey Limited ESCo
	B. Partnership Structures For example: **B1. Joint Venture with public sector majority control** • Development often a joint risk including grid connections • Design & Construction – transferred to private sector partner • Operations including lifecycle – shared • Revenue – price and volume risk shared *Majority of risks and rewards are shared and reflect control of the JV. In certain situations, private sector risk may be capped for best value reasons.*	• SW Solutions
	B2. Joint Venture with public sector minority control • Development risk including grid connections – transferred • Construction risk – transferred • Operations – transferred • Revenue risk – price and volume shared above certain agreed thresholds *Majority of risks and rewards are transferred to the JV. Authority retains ownership risks associated with JV. Rewards will reflect dividend income if the JV is incorporated or general financial returns and rentals for use of Authority assets.*	• Shetland Wind Farms • Forestry Commission Development Partnerships
	B.3 Design, Build, Operate (DBO) Partnership – may include finance as a DBFO Partnership • Development risk may achieve some risk transfer. Grid connection risk transferred • Design, build and operational risks transferred to the private sector for a 15-25 year period. • Revenue risk – shared around certain agreed thresholds • Funding - Authority *Majority of risks and rewards transferred to the private sector. Authority receives a financing return if a lender to the DBO company and a share in revenue above certain agreed thresholds.*	• Bristol Wind Turbines • Manchester Waste PFI • Nottinghamshire Waste PFI
	C. Arms Length Structures For example – service concessions and silent landlord structures • Development, construction, operational and revenue risks transferred to the private sector *Majority of risks and rewards retained by the Private Sector. Public sector financial returns limited to land/asset rental.*	• Forestry Commission Inverlael Hydro • SW windfarms

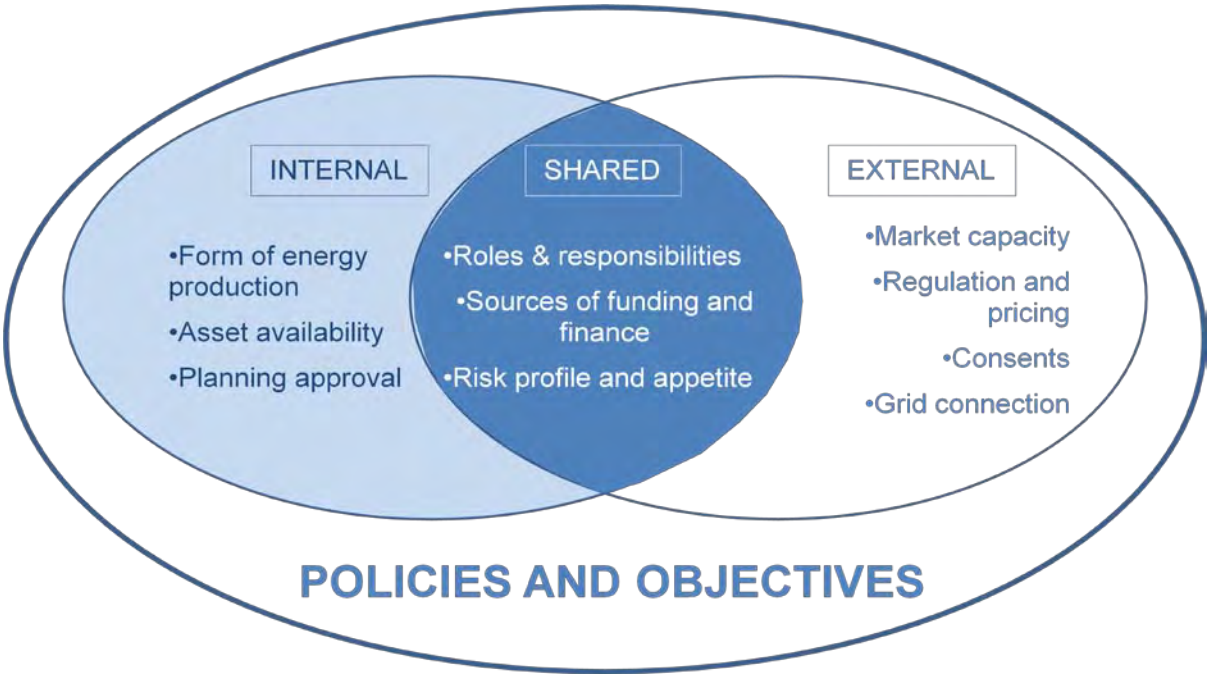
4. Funding and financing

A range of funding and financing sources are available for renewables projects with the most appropriate source being dictated by the characteristics of the individual project, including commercial structures, technology, scale and the differing cost and availability of various sources. Examples of different funding and financing forms available are summarised in the Table below:

Potential funding and financing sources	Owner/ Operator	Partnership	Arms Length
Council - PWLB, Capital Budgets, Assets	√	√	
Partner - secured on corporate balance sheets		√	√
Commercial Debt – Banks normal commercial terms.	**?**	√	√
Project Finance - separate company with ring-fenced cash flows		√	**?**
EIB - Debt, equity and carbon funds, other support mechanisms		√	
European Efficiency Fund - energy efficiency projects and renewable energy sources, particularly at urban and regional level. Targeted at sustainable energy projects promoted by public authorities in the EU.	√	√	
Grants, loans and incentives e.g. wrap funding; JESSICA; Operational funding – FiTS, ROCs, Renewable Heat Incentives.	√	√	√

5. Opportunities Route Map

The commercial structures that could be adopted for projects need to be considered within the specific context of the individual opportunities and the desired outcomes. Some of the key considerations and issues are identified through the case study review. These are represented below in terms of those that are largely within the control of the procuring authority; those within the control of external parties and those aspects that are shared.



In order to put the commercial drivers and potential structures into the context of the overall decision making process, we have set out a suggested route map to assist local authorities below. The route map provides a step by step process for any Local Authority considering establishing an energy production plan through to the delivery of individual initiatives. It provides an indication of the activities anticipated at each stage of the development of a renewable project/initiative and the expected role of the key players in the public sector as well as the wider renewables and investment market. Its key steps are shown in the diagram overleaf.

Policy objective/ outcome	•Identify the key policy objectives (such as carbon reduction, employment, fuel poverty, financial etc) and desired outcomes for the development of energy production facilities
Identify Assets	•Review asset base within an Authority to establish potential sites where renewable energy production could be developed
Identify energy form(s)	•Review the potential forms of energy production that could be appropriate for the asset base identified
Strategic feasibility	•Undertake a strategic options feasibility assessment of the potential assets and energy forms identified and the impact they could have on delivering objectives/outcomes
Strategic Commercial review	•Establish clear commercial framework for the strategic plan including the scale, nature and timing of the proposed infrastructure developments, risk profile and risk appetite.
Market Sounding	•To assess deliverability and assist prioritisation, undertake initial market sounding exercise to establish potential partners, funders as required to implement strategic plan
Opportunity specific Business Case	•Based on this interest/proposition, Authority to develop detailed Business Case(s) that clearly articulates the outcomes, commercial proposition and investment needs
Business Case review	•Public Sector review of the Business Plan to assess robustness of the proposed commercial structure and financing arrangements
Implementation plan	•Finalise commercial structure, funding requirement and develop detailed plan to deliver the preferred solution
Procurement	•Initiate procurement of the preferred option

6. Collaborative Procurement Approaches

As part of the remit for this report, COSLA asked us to examine the scope for common procurement approaches which could be developed between Local Authorities. We have identified a range of approaches which may be suitable for local authority renewables projects including:

- **Standardised Contracts** if a number of Authorities have a need to procure similar requirements, standardised contracts and procurement documentation could be developed. This would facilitate shorter procurements and avoid duplication of effort, for example, in developing tender documentation and contracts.

- **Frameworks** for the design and installation of renewables facilities and for the operation and maintenance of facilities. This approach would be particularly suitable for the owner/operator commercial structures as they could be designed to cover the purchase of components of the renewables projects; the advisory skills which may be required to develop these projects and operational and lifecycle services. The demand for these would need to be assessed before they were taken further.

- **Procurement of a joint partner** for a number of local authorities with the ability for local authorities to call off individual renewable projects. The development partner would work with individual Local Authorities to develop individual renewables projects. This could reflect the structures taken forward in other areas such as the hub initiative in Scotland where a private sector development partner forms a "hubco" and individual projects are taken forward as sub-hubcos. Alternatively, the development partner may enter into a contractual agreement with a range of public bodies which does not involve the establishment of a separate legal entity for the partnering aspect – just for the individual projects.

- **Project between a private sector delivery partner and a number of public sector bodies** to design, build, maintain and, if required, finance a renewables development. This is currently occurring in the waste sector, including organic waste projects.

7. Next Steps

There are a number of themes emerging within this review which deserve further exploration and research. These include:

1. **Experience sharing and monitoring** - continuing to collate information, monitor and build upon public sector best practice experience of renewables projects. This could include developments such as standardised procurement documentation, contracts across the public sector and active knowledge sharing between procuring authorities. The learning points from projects should be tracked to ensure that best practice is continually evolving.

2. **Assessing demand for common procurement approaches** - examining the need and Local Authority appetite for the common procurement models reviewed in this report. For example, the use of frameworks to purchase the installation or maintenance of renewables facilities is only likely to be viable if there is sufficient demand. This should be assessed so that, if required, the approaches can be procured on a timely basis.

3. **Joint Working – Joint Development Partners** - there may be benefits to the procurement of a joint development partner across a number of Authorities. The joint development partner would take forward a range of individual projects for a number of Authorities. This would have the advantage of minimising procurement times over a number of projects and enabling one partner to work proactively to identify viable renewables projects. However, it may be felt that this would be limiting unless the selected partner could provide access to a range of renewables technologies.

4. **Route map development and consultation** - the concepts explored in the route map should be further explored and enhancement made to those areas that are not the main focus of this report. This could be done through detailed consultation over the summer period with certain groupings including: Scottish Renewables, local authority professional groups, SOLACE, Energy Officers Network and Waste Managers Network.

5. **Pathfinders** - consider the opportunities for pathfinder projects to be identified. The aspects of these which worked well or where lessons were learned could then be applied to subsequent projects, developing best practice across the sector. These could reflect a range of commercial structures and renewable technologies, with priority being given to those projects which are most developed to ensure dissemination of information to other projects.