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Annex 1

Members of the Steering Group
Individual Consultees
Research Outputs

The aim of the study was to confirm the value of the adoption of Smart and Sustainable Procurement practices and to identify a consistent approach to implementation based on best practice worldwide; and to evidence the benefits of adoption through highlighting published case studies and guidance.

The expected output from the research programme was the framework for a web-based guidance tool for establishing a smart and sustainable procurement programme which could be adopted in any organisation with an interest in housing and form the basis on which a user could create a Smart & Sustainable Procurement process. This would bring together statutory requirements with international guidance, academic thinking, evidence based on case study, and best practice experience, with KPIs where available, from a range of organisations, business and the public sector in the UK and internationally.

The work programme was overseen by a Steering Group of practitioners who met throughout the study to review progress and the direction the study was taking. In its final meeting the Group proposed that a further stage the framework should be developed and extended to link to BIM including a buyer’s guide formulated on the construction of a sustainable house.

The study revealed that there is considerable interest in smart and sustainable procurement among academics, policy makers, professional bodies and business organisations, and especially in its implementation across supply chains. Most recently the Construction Leadership Council (CLC) has led work on Procuring for Value in the UK Construction sector deal\(^1\), which will inform the development of the Industrial Strategy. The aim of the CLC study is to connect procurement clearly to delivering overall business value though supporting improved productivity and efficiency in the sector.

Over the last few years the adoption of smart and sustainable procurement as a business tool has been supported by revised European legislation\(^2\).

However the adoption of the principles as a recognised business tool is inconsistent, and in most organisations forms only a small part of the established procurement process. In discussion practitioners revealed that there is often limited knowledge of best practice and insufficient evidence to gain organisational/corporate support for a process which, while offering longer term advantage, can often result in higher initial costs.

The SHAP study has captured a range of processes and activity from local, national and international work and used this to create the framework for a best practice guide as set out below.

Each process is based on best practice findings as referenced in the main research findings reported in the Appendix.

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1 Ann Bentley. Global Director, Rider, Levett, Bucknall and Member of Construction Leadership Council, Procuring for Value and the UK Construction Sector Deal. 2018
2 EU Directive 2014/24/EU on Public Procurement
Rationale for Adoption

- Faster delivery
- More durable product
- Improve value for money
- Reduce financial/operational risk
- Increase reputational recognition/
  Meet social objectives (CSR)
### Methodology for Adoption

#### Smart & Sustainable Procurement

*A purchasing system which enables organisations to meet their needs for goods, services, works and utilities in a way that is **faster and cheaper**, and achieves **value for money** on a **whole life basis** in terms of generating benefits not only to the organisation, but also to society and the economy, whilst minimising damage to the environment.*

<table>
<thead>
<tr>
<th>Whole Life Costing</th>
<th>Value for Money (VFM) means:</th>
<th>Faster and Cheaper (and Better) means:</th>
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</table>
| **Whole life basis** means: considering the environmental, social and economic consequences of design; non-renewable material use; manufacture and production methods; logistics; service delivery; use; operation; maintenance; reuse; recycling options; disposal; and the suppliers’ capabilities to address these consequences throughout the supply chain**.** | the most advantageous combination of cost, quality and sustainability to meet customer requirements (whether for infrastructure, product or service)**.** where:  
  - cost means consideration of whole life cost  
  - quality means a specification which is fit for purpose and sufficient or better to meet customer requirements over the life of the product or service. | understanding the existing market and market offer before purchasing  
  - introducing efficiency savings in project design rather than in value engineering thus:  
    - shortening the purchasing process or contracting period and reducing administrative time  
    - reducing or streamlining supply chains  
    - reducing business risk by eliminating late orders, over runs and reworks. |
Smart and Sustainable Procurement

Objectives

Deliver value for money purchasing, create value for the organisation

Meeting legislation and corporate strategies - climate change targets, community engagement, health and safety, air quality

Encouraging and introducing innovation to improve public infrastructure and services

Investing in the local economy
Opening up supply chains and removing barriers to entry for SMEs, social enterprises, community organisations
Increasing employment opportunity

Developing effective value-added partnerships and collaborations with and between suppliers

Promote purchase of clean technologies and resource efficient products and services

Maintaining air and water quality
Preserving and regenerating the natural environment and protected buildings and sites

Enhancing social value
Embedding fair employment practice
Investment in community assets and improved services

Encouraging wider participation. Regular engagement/communication with stakeholders - brand reputation

Delivering Sustainable Development Goals

Meeting legislation and corporate strategies - climate change targets, community engagement, health and safety, air quality
Smart and Sustainable Procurement Process

Devise Procurement Policy

Agree Governance (Capable Client Model)

Confirm Purchasing Areas/Budget Values/KPIs

Validation Procedures (Tools and Toolkits)

Tenders and Specifications

Contracts and Contract Management

Monitoring & Evaluation

Audit (external evaluation)

Organisation feedback loop (continuous improvement)
Capable Client

(an individual or group within the buying organisation with delegated authority and sufficient technical knowledge of the product or services being provided by a third party to specify requirements for the product or service and manage its delivery. The IC must collect and manage all data connected with the procurement (technical, organisational, financial, asset), understand and validate the need (including strategic alignment and cross-department policy compliance) for the purchase and how it will benefit the business in the future)

Appoints Board Room Champion

Establishes User - Buyer - Supplier 'teams' (with delegated authority)

Acquisition Planning
Manages Demand (Do we need to buy?)

Prioritises company spend

Assesses (purchasing) risk

Identifies business opportunity

Introduces Early Market (Supplier) Engagement/Colaboration/Innovation Partnerships

Prepares specification (with identified sustainable outputs/outcomes /KPIs)

Awards Contract and Oversees Delivery

Carries out Monitoring and Reporting

Commissions External Audit and Implements Recommendations/Improvements

Organises Feedback Loop - Continuous improvement
Smart and Sustainable Procurement - Policy Content

National Policy Context, e.g.
- National Procurement Strategy for Local Government 2014
- Public Services (Social Value) Act 2012
- UK Public Procurement Regulations 2014
- Modern Slavery Act
- EU Public Contracts Directive 2014
- UK Public Contracts Regulations 2015
- Public Procurement Reform (Scotland) Act 2014
- Modern Slavery Act 2016
- Health & Safety at Work Act 1974
- Climate Change Act 2008

Local Policy Context. e.g.
- Business Strategies
- Local Development Plan
- Local Economic Strategies
- Climate Change targets/ GHG Emissions

Local Strategic Priorities and Objectives

Organisational Procurement Objectives/Core Principles, e.g.
- Commercial Efficiency
- Investment in local economy
- Approach to SMEs
- Innovation in services
- Corporate Sustainability objectives
- Transparent systems

Governance and Management Structures
- Board Champion and Intelligent Client

Establish Purchasing Criteria, e.g.
- MEAT (Most Economically Advantageous Tender) - Price v Quality Indicators
- Social Value Priorities

Identify Key (Sustainable) Purchasing Areas

Confirm Output Indicators and KPIs for Supply

Identify Relationship with Suppliers/Supply Chain Management
- PIN and Early Market Engagement
- Partnerships and Collaboration
- Supplier Frameworks
- Open or Restricted Tendering
- Competitive Dialogue
- Competitive Negotiation

Measurement & Monitoring Procedures

Reporting & Accountability (continuous improvement feedback loop)
Smart & Sustainable Procurement - Sustainability Criteria

Corporate Sustainability Standards
- Local economic growth - access for SMEs and start-ups
- Encouraging innovation
- Delivering social inclusivity
- Promoting high standards of environmental management including:
  - reducing transport miles
  - sustain high air quality and low levels of waste production
  - reduced energy consumption
  - low noise emissions
  - investments in improving biodiversity
- Set targets for improvements in the use of raw materials

Whole Life Costing Policy
- Purchase cost
- Operational cost
- Maintenance cost
- Disposal cost

Product
- Energy consumption/rating
- Related emissions
- Embedded carbon/water
- Ethical production values
- Eco-labelling
- Local product content
- Transport mile
- Remade/reuse potential

Services
- Local employment
- Training standards
- Fair recruitment and employment standards
- Local Supplier base
- Relevant accreditations
Smart and Sustainable Procurement - Supplier Relationships

Inform Market/Early Market Engagement
- Soft market testing
- Publish Forward Procurement Plan
- Expression of Interest (EoI) or Prior Invitation Notice (PIN)
- Solutions ‘Show-and-Tell’ sessions
- Meeting with industry bodies
- Meeting with groups of key suppliers
- Hold open ‘Meet the Buyer’ event

Identify knowledge of market status and form of supply (Capable Client)
- How complex is the product/service?
- How complex is the market?
- How mature is the market?
- What is the scope for innovation?

Confirm form of Engagement
- Competitive (open or restrictive tendering)
- Framework arrangement
- Innovation partnership
- Buyer/Supplier Collaboration
- Supplier to supplier collaboration (Alliancing)
<table>
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<tr>
<th>Process indicators – e.g. how many people trained</th>
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<tbody>
<tr>
<td>No of apprenticeships</td>
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<tr>
<td>Energy savings kWh</td>
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<td>Raw materials sustainable sources %</td>
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<table>
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<tr>
<th>Output indicators – e.g. performance on carbon emissions CO2te</th>
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<tr>
<td>waste volumes reduced % or t</td>
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<tr>
<td>number of local employees</td>
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<tr>
<td>local spend £</td>
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<tr>
<th>Outcome indicators – contribution of the supply chain to overall organisational objectives</th>
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<tbody>
<tr>
<td>Community activity organised</td>
</tr>
<tr>
<td>Volunteering time hours</td>
</tr>
<tr>
<td>£ invested in environment or social gain</td>
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</tbody>
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| Impact indicators – wider impact on the environment or society, or “externalities”, e.g. impact on local unemployment figures, fuel poverty, or air quality, |
Appendix

Smart & Sustainable Procurement
Research Findings
1. Introduction

This study is one of a suite of three research projects being undertaken by SHAP Sustainable Housing Action Partnership). The objective of the research programme is to inform the development of a new management methodology which ensures that all new homes are built to the highest standards of sustainability and that a robust and affordable retrofit programme can be instigated.

In addition to the work on Procurement, SHAP is examining through two further research programmes the options for the development of new financial models to support the wider provision of sustainable homes; and investigating the methods and associated costs of reducing the energy performance gap, and the opportunities for financing the improvements to deliver optimum affordability.

The aim of this study is to confirm the value of the adoption of Smart and Sustainable Procurement practices and to identify a consistent approach to implementation based on best practice worldwide; and to evidence the benefits of adoption through highlighting published case studies and guidance.

The expected output from the research programme would be a framework for a web-based guidance tool for establishing a sustainable procurement programme. This will bring together statutory requirements with international guidance, academic thinking, evidence based on case study, and best practice experience, with KPIs where available, from a range of organisations, business and the public sector in the UK and internationally. The framework would form the basis on which a user can create a Smart & Sustainable Procurement process.

The work programme was overseen by a Steering Group of practitioners who met throughout the study to review progress and the direction the study was taking. In its final meeting the Group proposed that a further stage the framework should be developed and extended to link to BIM including a buyer’s guide formulated on the construction of a sustainable house.
2. **Context**

Procurement is a cross-cutting theme for the housing sector. Spending on public services and infrastructure equates to £780 bn annually in the UK with £89 bn in the Midlands (2017 data). Investment in new housing equates to some £5.3bn in the UK annually (2015 data). A significant proportion of this money will be paid to private companies contracted to deliver the relevant products and services. Therefore a sustainable procurement process based on responsible supply chain management, can ensure that public spending delivers a multiplier effect generating benefits not only to the purchasing organisation but to the locality in which the investment is made.

There is believed to be sufficient evidence to show that the adoption of Responsible (Smart and Sustainable) Procurement practices not only supports organisational objectives in both public and private sectors, but deliver wider benefit ensuring that an economic, environmental and social balance can be achieved. These multi-layer benefits can be achieved through for example:

- Requiring high value recruitment, employment and training processes in supply companies
- Championing the purchasing of clean technologies and resource efficient products and services from local companies thereby introducing additional employment and wealth creation opportunity
- Adopting measures for the reduction of air and water quality problems and the wider detriment to the natural environment and protected buildings and sites, which in turn reduce essential remediation costs
- Promoting strong social values throughout the procurement and contracting process which improve public amenity, health and wellbeing for residents and service users alike.

Implementation of Sustainable Procurement in the public sector is supported by legislation, including through EU Directive, and in Scotland and Wales through primary legislation with The Procurement (Reform) Act 2014 and in the principles set out in the Future Generations (Wales) Act 2015 respectively. In England and Northern Ireland support is directed primarily through the published Government Buying Standards and in Northern Ireland in the Dept of Finance Sustainable Development Strategy.

Evidence gathered to date from the UK, especially England, suggests that many organisations have adopted some forms of sustainable procurement, including applying targets for investment in social value measures, but that the principles are often not applied consistently and, because no formal policy has been adopted, the approach is frequently over ridden in response to prevailing cost pressures.

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3 www.ukpublicspending.co.uk
4 Commerz/Oxford Analytics
5 UN Handbook of Guidance for Sustainable Procurement
6 UK Government, Government Buying Standards
7 NI Executive- Dept of Finance. Sustainable Development Strategy 2010
3. **Research Methodology**

**Background**

The research project has been undertaken under the direction of a Steering Group formed following a debate at the 2015 SHAP Conference. Delegates to the Conference had described a very mixed picture in terms of the approaches adopted in relation to procurement in the housing sector. The experience of those present was that while there was a general commitment to improving sustainability, the adoption of methods to deliver this was more limited. While some organisations had internal procurement specialists or had outsourced key procurement activity to organisations such as CHIC, many managing purchasing were not specialists, had only general procurement knowledge and found it difficult to track best practice. However all identified the potential advantage of the consistent adoption of the principles of sustainable procurement to support the delivery of sustainable homes and the reduction of the energy performance gap in both new build and retrofit programmes.

The first Steering Group established a framework and agreed generic principles for a standardised approach to implementing sustainable procurement. A core consideration was to ensure that the opportunities offered by the new EU Regulations/Directive 2014 and guidance on GPP (Green Public Procurement) and SPP (Sustainable Public Procurement) were understood and utilised in any development of procurement policy.

The Steering Group was reformed in 2017 and revisited the principles and definitions which had been set out in the original proposals. It was agreed that the definitions should be extended to include Smart Procurement. The Group confirmed that further research should be undertaken to support the development of a ‘Guide’ for the housing sector which would enable an improved procurement system (Smart and Sustainable) to be adopted: this system to be one which supports the determination of long term value from financial investment for the organisation as well as identifying the likely wider benefit and the economic, social and environmental balance.

The Guidance for SMART & Sustainable Procurement would aim to improve the knowledge of the ‘Buyer’ and include the following:

- Provide Clarity (of Purpose) for adopting Sustainable Procurement procedures, including examples of the process reducing the cost of and length of the procurement process
- Recognise the balance of economic, social and environmental benefit and the potential contribution to the delivery of increased social value
- Enable a consistency of approach including:
  - Adopting a Life Cycle assessment and ‘whole life costing’ as core principles
  - Standardised definitions/parameters for sustainable purchasing values and associated metrics
- Include examples (case studies) to demonstrate potential such as improving Value for Money
- Create Market Dynamic (for local economy)
3.1 Purpose of the Research Programme

As the overall aim of the Guide is to embed the recognised principles of sustainable procurement within standard business processes, the research undertaken would focus on the following objectives:

- streamlining the procurement process
- reducing its cost
- promoting the adoption of whole life costing as a business principle
- the achievement of outcomes which deliver economic, social and environmental benefit.

3.2 Research Requirements

As a precursor to the production of the Guide, relevant background research would be undertaken to consider the issues of:

- The potential detriment to the achievement of ‘long term value’ of continuing with a ‘business as usual’, cost only approach
- The cost of procurement and the time taken to confirm sources of supply
- The lack of a consistent framework for working with sustainability as a target but within the current legislation, and for determining and measuring outcomes
- The question of the value to be derived from a product or service and a definition of that ‘value’
- Low levels of innovation and value added responses from within the construction supply chain, partially as a result of barriers to new entrants, particularly SMEs.

Further desk research would identify current thinking and best practice activity in delivering a smart and sustainable procurement process. Where appropriate outputs from desk research should be further explored and validated by 1:1 interview and discussion or on-the-ground review.

In addition to the original objectives, the published guidance should take account of the following:

- The most effective governance arrangements to be applied
- The most effective form of accountability within the delivery organisation
- Ensuring transparency within the approach (for client, buyer and supplier)
- Supporting the principle of continuous improvement within the practising organisations.

Any recommendations made and principles proposed for general adoption should be:

- Fully evidenced
- Have demonstrable alignment with the prevailing legal and statutory conditions (advice to be given about the methodology for confirming full compliance)
- Appropriate for application within the public, private and voluntary/community sectors
- Transferable from those sectors adopting exemplar new practices to the construction sector.
3.4 Research Processes

The research programme has been based on the following elements:

- Desk research including published reports and academic papers
- 1:1 interviews with experts in the field including business representatives
- Input from Steering Group and its members
- 1:1 interviews with potential users
- Output from discussions at open forums and public debate.
4. **Contextual Determinants**

Throughout the review and debate legislation (national and international) was recognised as an effective catalyst for change within the procurement process. The following key legislation and published policy documentation has formed a framework for the study. This is not intended to be an exhaustive list.

- Sustainable Communities Act 2007 – Sustainable Communities Strategy\(^8\)
- Procuring the Future Sustainable Procurement National Action Plan\(^9\):
- Equality Act 2010
- UNEP Marrakech Protocol\(^10\)
- Public Services (Social Value) Act 2012
- EU Directive 2014/24/EU on Public Procurement\(^11\)
- The sustainable procurement duty, section 9 of Procurement Reform (Scotland) Act 2014
- Public Procurement Regulations 2015
- Utilities Contracts Regulations 2016
- GBS – Government Buying Standards\(^12\)
- Crown Commercial Services – Balanced Scorecard – Procuring Growth\(^13\)

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\(^8\) Sustainable Communities Act 2007/Sustainable Communities (Amendment) Act 2010


\(^10\) Marrakech Task Force on Sustainable Public Procurement led by Switzerland. Activity Report May 2011

\(^11\) IISD A Step in the Right Direction: The EU’s revised directives on public procurement

\(^12\) Sustainable Procurement: Government Buying Standards 2012

\(^13\) Crown Commercial Services. Procuring for Growth – Balanced Scorecard
5. Research Findings

A general (and global) understanding is that sustainable procurement is a business process on which purchasing decisions are generally based but which takes account of environmental and social factors alongside economic and financial considerations. Based on the recognised global definitions, it also requires taking account of additional factors such as commercial, social and environmental risk, performance management, and organisational and social priorities.

Smart and Sustainable Procurement – A Definition

The core definition adopted by the Steering Group is based on the global definition produced by UNEP, and its practical application to the UK as promoted with the leading professional body – CIPS. However it also takes account of the experience of the MOD in developing its procurement processes. The agreed definition is set out below:

Smart and Sustainable Procurement is ‘A purchasing system which enables organisations to meet their needs for goods, services, works and utilities in a way that is faster, cheaper and better; and achieves value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, whilst minimising damage to the environment’.

In order to clarify the terms of the definition, after a literature review and discussion within the Steering Group the following were applied:

Faster, Cheaper and Better

- the true need for a product or service
- understanding the existing market and market offer before purchasing
- introducing efficiency savings in project design rather than in value engineering thus:
  - shortening the purchasing process or contracting period and reducing administrative time
  - reducing or streamlining supply chains
  - reducing business risk by eliminating late orders, over runs and reworks.

Whole life basis

means: considering the environmental, social and economic consequences of design; non-renewable material use; manufacture and production methods; logistics; service delivery; use; operation; maintenance; reuse; recycling options; disposal; and the suppliers’ capabilities to address these consequences throughout the supply chain.

Value for Money (VFM)

means: the most advantageous combination of cost quality and sustainability to meet customer requirements (whether for infrastructure, product or service)’

where:

- cost means consideration of whole life cost

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14 UN Procurement Practitioners Handbook. 2006
15 UNEP. Taskforce on Sustainable Public Procurement
17 MOD Smart Procurement Initiative. 1997
18 CIPS: Knowledge Works: Sustainable Procurement(Based on UK SPTF Procuring for the Future 2006)
19 IEMA & Action Sustainability: Delivering Sustainable Outcomes Through Supply Chains Using ISO 20400
20 NI Dept of Finance. What is Value for Money. 2015
quality means a specification which is fit for purpose and is sufficient or better to
meet customer requirements.

Note:
Government Policy on Value for Money. Annex 4.6 of the Treasury’s Managing Public
Money21.

The National Audit Office (NAO) uses three criteria to assess the value for money of
government spending i.e. the optimal use of resources to achieve the intended outcomes:

- **Economy**: minimising the cost of resources used or required (inputs) – *spending less*;
- **Efficiency**: the relationship between the output from goods or services and the resources
to produce them – *spending well*; and
- **Effectiveness**: the relationship between the intended and actual results of public
spending (outcomes) – *spending wisely*.

NAO VfM assessments look at how well or whether a process or service is working:
- where value is being added (for example, is a service improving outcomes for its
intended service users)
- where resources are used (and wasted)
- where savings can be made.

The adoption of the above principles as fundamental drivers for a smart and sustainable
procurement service led to the introduction and adoption of the concept of an ‘**Intelligent
Client**’ as a key component of the research approach. This proposition was first adopted by
the ODA in the delivery of the London Olympic Park22 and has been widely recognised
across the construction sector23, 24, 25, 26, 27, 28, 29.

The Steering Group took account of the policies and experience of those organisation which
have worked successfully with and promote the Intelligent Client concept. This experience
was used to create a working definition for the research programme as follows:

**An Intelligent Client (IC) is an individual or group within the buying organisation with
delegated authority and sufficient technical knowledge of the product or services being
provided by a third party to specify requirements for the product or service and manage its
delivery. The IC must:**

- understand and validate the need (including strategic alignment and cross-
department policy compliance) for the purchase and how it will benefit the business
in the future.
- collect and manage all data connected with the procurement (technical, organisational, financial, asset).

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21 HM Treasury. Managing Public Money
23 NAO Transforming Government Procurement
24 SIC-Network. Procuring Innovative and Sustainable Construction
25 Steve Morgan. Moving up the Professional Supply Chain for Contracting Pros. 2012
26 Gil & Lundgren. BAA Heathrow. The Intelligent Client
27 ICE. Intelligent Client Framework
29 APPG. How can the public sector become a More Intelligent Client. 2012
The principle of an Intelligent Client is recognised in the widely adopted Constructing Excellence programme, although the terminology is increasingly moving towards ‘Capable Client’.

5.1 Understanding Sustainable Procurement

Using Legislation

The influence of two key pieces of legislation can be taken into account when determining a rationale for the implementation of a sustainable procurement policy:

**EU Directive 2014/24/EU on Public Procurement**

A paper produced by IISD\(^\text{30}\) set out some options provided/supported by this legislation:

- Environmental requirements can be included in technical specifications (Article 23(3)b)
- Award decisions and specifications can be based on criteria required by eco-labels (Article 23(6)).
- Social and environmental conditions can be included in performance of contracts (Article 26)
- Bidders and their suppliers have to demonstrate compliance with environmental obligations (Article 27)
- Bidders have to show that they can perform a contract in accordance with environmental management measures (Articles 48(2)f)
- Award decisions made on the “most economically advantageous tender” (MEAT). These requirements encourage public procurers and policy-makers to consider the life-cycle costs, or the total-cost-of-ownership when planning, designing, structuring, funding and financing public goods, services and assets.
- Emphasis on pre-commercial procurement in the EU public procurement strategy (Early market engagement – EME)
- Increasing access for SMEs.

**Public Services (Social Value) Act 2012**

The Social Value Act requires ‘commissioners to consider securing economic, social, or environmental benefits when buying services above the OJEU threshold. To comply with the Act, Commissioners must think about how what they are going to buy, or how they are going to buy it, could add these benefits, and must also consider whether they should consult on these issues’.

A review conducted by Lord Young for The Cabinet Office\(^\text{31}\) in 2015 reported that ‘the Social Value Act can be seen as a tool to promote the wider uptake of a particular approach to commissioning for best value, namely social value. At its most useful, the Act can be a tool to save money in the context of severe public procurement cost saving pressures, and a way to think about public services in a more coherent way that plays into the redesign of services starting to emerge as a result of these pressures’.

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\(^{30}\) IISD  A Step in the Right Direction: The EU's revised directives on public procurement

\(^{31}\) Cabinet Office: Social Value Act Review. Feb 2015
This review also identified that good practice included:

- seeing social value in the context of the wider organisational strategy
- a strong focus on pre-market engagement

and that when effectively and consistently applied a sustainable procurement policy can provide economic, social and environmental benefit to a public organisation and assist with securing value for money.

However the report also included that more needed to be done to:

- ensure consistent and rigorous measurement of the impact including the additional monies created
- understand how social value should be included in each stage of the procurement process.

A range of studies has determined that EU Procurement legislation generally allows for measures which support investment in social value through the use of Community Benefit Clauses. This principle has been adopted by the Scottish Government in its procurement practice over a number of years, was embedded in the Public Contracts (Scotland) Regulations 2006 (based on an interpretation of EU legislation) and was tested through the Community Benefits in Public Procurement (CBIPP) programme which reported in 2008.

The CBIPP programme was based on the experience of five contracting authorities in Scotland, including the Glasgow Housing Association.

While community benefit clauses are more generally associated with delivering improvements in the local job market, and in training, the Joseph Rowntree Foundation has also reported on a wider set of social benefits.

The importance of community benefit clauses in underpinning sustainable procurement will be demonstrated by the value (weighting) placed upon tender responses to these requirements. Discussions with practitioners have shown that these weightings can range from 5% (expected minimum) in most tender assessments but rising to 20% when tenders are invited for some social housing construction contracts.

**Policy and Guidance**

**ISO:20400**

In an assessment of the guidance given by the recent ISO:20400, the key principles of sustainable procurement have been identified as:

- Life cycle approach

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33 Richard Macfarlane and Anthony Collins LLP. Achieving Community Benefits from Contracts: law, policy and practice
37 IEMA & Action Sustainability: Delivering Sustainable Outcomes Through Supply Chains Using ISO 20400
- Continuous improvement
- Accountability
- Transparency
- Ethical behaviour
- Full and fair opportunity
- Respect for stakeholder interests
- Respect for the rule of law and international norms of behaviour
- Respect for human rights
- Innovative solutions
- Focus on need
- Integration (in and across the supply chain)

Further elaboration on the guidance has been set out in by other practitioners. These are described below.

a) IEMA - Drivers for Sustainable Procurement

A paper published by IEMA identified the Key Drivers and assessed the status of these in the most common approaches taken in published documentation:

![Diagram](image)

b) CIPS - Introducing 10 Principles of Best Practice in Sustainable Procurement

- Using procurement to deliver sustainable outcomes
- Focus on impacts material to the procurer
- ‘Sustainable supply’ not ‘sustainable supplier’
- Not one-size-fits-all
- Manage demand

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38 IEMA and Action Sustainability. Delivering Sustainable Outcomes through Supply Chains using ISO20400
39 CIPS – Shaun McCarthy. 2014
• Embedding sustainability into current procurement practice
• Tier one is not the only one (to consider)
• Encourage innovation
• Develop a competitive, sustainable supply chain
• Full and fair opportunity.

c) Ecovadis - Five Steps to Building the Case for Sustainable Procurement

• Build and quantify a business case (where cost is considered paramount) by:
  o Measure supply footprint (size and reach of supply chain)
  o Identify sustainable principles adopted by suppliers
  o Confirm strategic alignment with organisational policies
• Benchmark position within sector and with competitors
• Identify internal alerts, e.g. supply chain risks and insurance issues
• Confirm customers sustainability requirements
• Recruit internal champions and collaborate with early adopters.

Some common themes begin to emerge from these different perspectives:

  i) Cost, competitive advantage and customer ‘need’ remain the key drivers and not the wider social, environmental and economic benefit
  ii) Reducing business risk, innovation in process, supply chain development and commitment and customer demand for increased sustainability credentials are all recognised ‘benefit’ criteria which need to be taken further.

While (ii) shows some alignment with the ISO:20400 Guidance, the IEMA assessment clearly identifies that current practice falls someway short of the 20400 proposition.

Construction 2025

While ISO:20400 provides a general framework for sustainable procurement, this strategy sets out a clear vision for the future of the construction sector which is aligned with the principles of both smart and sustainable procurement. The vision is based on delivering expected improvements in the following:

• PEOPLE An industry that is known for its talented and diverse workforce
• SMART An industry that is efficient and technologically advanced
• SUSTAINABLE An industry that leads the world in low-carbon and green construction exports
• GROWTH An industry that drives growth across the entire economy
• LEADERSHIP An industry with clear leadership from a Construction Leadership Council.

In delivering these improvements the strategy anticipated that the following targets would be met

• 33% reduction in construction costs
• 50% reduction in emissions
• 50% reduction in construction time from inception to completion for both new build and refurbishment contracts.

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40 David McClintock, Marketing Manager, Ecovadis 2015
41 BIS. Construction Strategy 2025. 2013
The strategy clearly identified the important role that the client (buyer) must play in driving improvements through introducing smart and sustainable procurement policies.

**Life Cycle Analysis (LCA)**

Life Cycle Assessment or Analysis is a core principle of a sustainable procurement approach and one which is clearly identified by ISO:20400. For the purposes of this study the following definition has been adopted:

*A systematic environmental assessment for goods and services which considers the whole life cycle from the extraction of raw materials to end of life disposal, including waste disposal or recycling.*

*LCA takes account of multiple environmental impacts, including raw material availability, loss of biodiversity, GHG emissions, and harmful pollutants. It can therefore be used to assess the related business risk, product or service performance and associated competitive advantage.*

**5.2 MEAT (Most Economically Advantageous Tender)**

The most economically advantageous tender (MEAT) is a recognised element of the 2014 EU Directive. While more commonly associated with price it can take account of the best price-quality ratio (BPQR) and can therefore a factor in sustainable procurement.

In this context MEAT means price or cost plus other criteria and equates to Value for Money where Value for Money means securing the best mix of quality and effectiveness for the least outlay over the period of the use of the goods or services bought.

‘Other Criteria’ can include qualitative, environmental and/or social aspects, linked to the subject matter of the contract. Social aspects must be linked to the subject of the contract (product or service), and at any stage of their life cycle including factors involved in:

- The specific process of production, provision or trading of those works, supplies or services; or
- a specific process for another stage of their life cycle.

**5.3 Guidance on Innovation Procurement**

This guidance has adopted the premise that ‘Innovation Procurement’ can bring the best added value in terms of quality, cost-efficiency, environmental and social impact and whether it brings opportunities for the suppliers’ market/new business opportunity for local enterprises. The methodology therefore aligns with the basis of Smart and Sustainable Procurement.

The Guidance provides a series of case studies from across Europe including the study carried out by Transport for London (TfL) into the best methods of upgrading lighting across its asset base. The result which included a LCA led to the installation of LED lighting on an 8-year £8m contract which reduced overall costs by 50%.

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5.6 Common Barriers to Adopting Sustainable Procurement

A paper published in 2009 by Walker and Phillips\textsuperscript{45} reported a series of challenges to the successful delivery of a sustainable procurement policy. These had been identified from a survey of practitioners undertaken by the authors and are described in the extract below:

<table>
<thead>
<tr>
<th>No.</th>
<th>Issue</th>
<th>Challenges</th>
<th>How to overcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>Top level buy-in and training</td>
<td>Through top level buy-in to promote training. Clear direction from the bottom level. Learning as opposed to teaching. Recreate value through innovation.</td>
<td>Need senior management commitment. Need novel approaches to training – impact of the individual. Need to identify ways of engaging the nonconverted. Separate budget for sustainability and training. Stability – time to work on strategies and policies.</td>
</tr>
<tr>
<td>2.4</td>
<td>Resources</td>
<td>Lack of time, budget, resources</td>
<td>Create time and resources. Commitment. Create expectations. Realistic goals. Break down subject. External pressure.</td>
</tr>
</tbody>
</table>

These barriers were reiterated in general terms in a report by EPOW\textsuperscript{46}:

- Lack of senior and organisational support
- Structural and organisational change
- Lack of coherent processes, systems and approaches
- Lack of time, knowledge and capacity
- Costs, perceived costs and achievable savings.

**Overcoming Typical Barriers**

The following prerequisites to a successful adoption of sustainable procurement were identified in a paper published by Alis Hemmingsen\textsuperscript{47}:

- Providing evidence of success (convincing Leaders)
- Gaining organisational commitment

\textsuperscript{46} EPOW (European Pathway to Zero Waste) 2010/11
\textsuperscript{47} Alis Hemmingsen. Collaboration Growers: Growing and Transforming Your Business. 2013
• Justifying (additional) cost
• Identifying relevant training systems and relevant toolkits
• Describing systems for implementing change (across the supply chain)
• Devising affordable audit programmes and associated evaluation and monitoring.

Hemmingsen highlighted the lack of a universal legislative framework for responsible procurement as a barrier to adoption and success.

Context for the Sustainable Procurement Process

**UNEP Marrakech Approach**

The Marrakech Protocol is based on a Prioritisation Methodology and includes a process for undertaking a risk-based prioritization exercise based on a whole life cycle approach, and the principle that every product and service has a ‘life cycle’ or number of stages it goes through. A life cycle approach allows for an assessment of:

• where the risks lie
• where the opportunities lie
• the actions that can be taken to manage these risk
• the stage of the procurement process that this is best done.

Marrakech has been adopted by the UK Government in developing the National Sustainable Public Procurement Programme (NSPPP)\(^{48}\) which was based on two methodologies:

\(^{48}\) Defra, National Sustainable Public Procurement Plan.2009
The flexible framework proposes a systematic approach which covers five areas of activity and can be summarised as follows:

- **People**
  - Gaining organisational commitment
  - Strong leadership – Sustainable Procurement Champion
  - Assessing overall knowledge of sustainable principles within the organisation
  - Ongoing training programme.

- **Policy, strategy and communications** – developing a high level policy for procurement, incorporating:
  - impact and risk assessment,
  - including objectives for implementing sustainable principles endorsed by the CEO
  - clear linkages to complementary policies such as Sustainable Development, Environmental management and Corporate Social Responsibility.

- **Procurement process** – a recognised systematic organisation-wide process which recognises approved policy:
  - based around whole life costing
  - is outcome based with clear KPIs
  - includes a monitoring and evaluation strategy.

- **Engaging suppliers**
  - Requires good knowledge of supply chains and their component parts
  - Is open to SMEs and can encourage new entrants
  - Introduces bilateral dialogue between buyer and suppliers (and between suppliers – supply chain members)
  - Enshrines a long term commitment about supplier development structured around spending levels.

- **Measurement and results** reporting including:
  - Assessments of inputs and outputs – balanced scorecard
  - Contribution to departmental or organisation targets including legal requirements such as CRC
  - Peer comparison – business competitiveness
  - independent benchmarking and audit – reputational value.

Progress and performance against the Flexible Framework can be measured using Defra’s Flexible Framework Solutions tool\(^{50}\) or the Scottish Government’s Flexible Framework Assessment\(^{51}\).

It should be noted that the flexible framework picks up and addresses many of the challenges raised by researchers and practitioners and introduces a route map to achieving greater benefit as is demonstrated in case studies, including those from Scotland.

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\(^{50}\) Defra. Sustainable Procurement. Flexible Framework Solutions Tool. 2011

The most recent published guidance in ISO 20400:2017 describes a series of ENABLERS required for the successful implementation of sustainable procurement process. These are shown below and continue to support the principles set out in Defra’s Flexible Framework:

![Enablers Diagram]

The Prioritisation Methodology based on the Marrakech approach provides a structured approach to assessment of purchasing categories. It aims to focus resources in areas with the greatest potential to improve sustainability and deliver improvements in priority areas, and considers:

- Amount of spend within the organisation
- Impact and associated Risk (both environmental and socio-economic) and including reputational risk
- Scope (to do more)
- Influence on Suppliers.

The assessment of the risks is broken down into four key phases, i.e.:

- Raw materials (start of process)
- Manufacturing and logistics
- Use
- Disposal or end-of-life

and requires consideration to be given to the likely impacts at each stage of the process. These impacts can be both environmental and socio-economic. An assessment of the risks and opportunities at each stage of the life cycle allows for an effective end-of-life management process to be built into any specification.

The Prioritisation Assessment methodology is based on a scoring system which is aggregated for each category to give an overall priority score. This can be implemented using Defra’s Prioritisation Assessment tool and associated guidance.

While the Marrakech approach was aimed primarily at applications at national level, it has been adopted for use with individual procurement activity. Case studies reporting the

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52 Defra: Prioritisation Assessment tool. 2012
successful use of the protocol in public procurement can be found in the Zero Waste Scotland report\textsuperscript{54}.

**Why Purchase?**

In considering the requirement (actual need) for a purchase the NSPPP adopted a procurement hierarchy as shown below. This model was based on work developed by Forum for the Future\textsuperscript{55} which used a systematic process that examined and tested the real demand for a purchase, asked for consideration of whether there were existing alternatives to acquisition (see below), and the essential volume of that purchase, once the need was established.

![The procurement hierarchy](image)

The effectiveness of this model was demonstrated in a further report from Forum for the Future -. Buying a Better World. Sustainable Public Procurement\textsuperscript{56}

**Forms of Tender**

Interviews with practitioners who have implemented sustainable procurement policy has identified that all forms of tendering are applied with framework arrangements the most common method of selecting suppliers for tendering opportunities. However one interviewee reported that is organisation was moving away from the general use of framework arrangements as it had been identified that when open tendering was adopted the buying organisation was more likely to receive innovative proposals or to identify innovative products or services.

It was also reported that when innovative proposals were received these were often scored low in the assessment as they were often not tried and tested or recognised methodologies and the buying organisation was heavily risk adverse (especially when a legal or finance department was directly involved in the assessment).

\textsuperscript{54} Zero Waste Scotland. Sustainable Procurement in Scotland – A Collection of Case Studies

\textsuperscript{55} Forum for the Future. Buying a Better World. Sustainable Public Procurement. 2007

\textsuperscript{56} Forum for the Future. Buying a Better World. Sustainable Public Procurement
The base standard for the development of a form of tender and specification which supports sustainable procurement is set out in the EU’s Green Public Procurement Toolkit\(^{57}\). This standard focuses on delivering environmental benefit and should be taken together with the recognised process for incorporating community benefit clauses. The GPP toolkit does not deal specifically with construction contracts.

There are many examples of documents which include clauses which support the sustainable procurement requirements. For this report documentation used by BMHT\(^{34}\) in its new build housing contracts and which forms part of its new Dynamic Purchasing System provides a best practice example.

The Supply Chain Sustainability School\(^{58}\) funded by CITB and supported across the construction industry, provides a series of learning modules which set out a process for the development of tendering and contracting systems which embed sustainable procurement principles.

**Demonstrating Success and Value from Sustainable Procurement**

The following is a summation of experience which defines a rationale for adopting sustainable procurement practices:

**For the Purchaser**

- Helps meet legislative and statutory targets\(^{59,60}\)
- Delivers lifetime value (revenue) against initial on-off (capital) cost\(^{61,62}\)
- Reduces key business costs (e.g. energy) by increasing resource efficiency and minimising associated supply risk/cost\(^{63}\)
- Shortens supply chains, reduces transport miles and transport risk\(^4\)

**For the Economy**

- Increases local business development and economic growth
- Encourages/increases participation of SMEs, social enterprises and voluntary organisations

**For the Environment**

- Increases environmental protection (habitat protection)
- Reduces environmental impact, e.g. air pollution (unforeseen consequences)

**Social Aspects\(^{51,64,65}\)**

- Supports creation of social capital
- Offers local employment opportunities, skills and training

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\(^{58}\) Supply Chain Sustainability School. [www.supplychainschool.co.uk](http://www.supplychainschool.co.uk)


\(^{60}\) Forum for the Future. Buying a Better World. Sustainable Public Procurement

\(^{61}\) World Economic Forum. Beyond Supply Chains. 2015

\(^{62}\) Zero Waste Scotland

\(^{63}\) Pwc, EcoVadis, Insead. Value of Sustainable Procurement Practice. 2010

\(^{64}\) Richard Macfarlane and Anthony Collins LLP. Achieving Community Benefits from Contracts: law, policy and practice

\(^{65}\) The Scottish Government CIBP Project Report 2008
• Embeds fair employment practices.

Public bodies such as Local Authorities can be particularly influential as ‘anchor institutions’ in delivering Local Wealth Building through procurement practices creating local networks for employment and building local supply chain capacity.

**Evidencing Value**

**Demonstrating Success (Value to the Business)**

A key challenge identified by practitioners is the demonstration of the ‘value’ of a procurement activity when potentially set against increased base cost. In order to demonstrate ‘value’ from a procurement activity it is important that there is a general understanding of the definition of the term to the organisation. Studies conducted for CIPSA\(^6\) define procurement value as ‘procurement-led improvements that safely tap supply market power to increase expenditure value, which is about getting more out of supplier expenditures’ and identify two options for increasing expenditure value:

- Decrease expenditure magnitude by reducing consumption and total cost of ownership (TCO). TCO includes price, other landed costs, capital costs, and the cost of procurement
- Increase utility of expenditure to better support end stakeholder objectives, where stakeholders includes end customers, regulators, shareholders, or suppliers.

A model for delivering value is shown in the diagram below:

价值主张

- 通过刺激良好的需求并增加业务价值，而不是仅仅减少费用。
- 通过减少不必要需求、复杂性、即时性和变异性。
- 通过减少总供应成本（不包括供应商利润）。
- 在正确的价格下。
- 便利和正确的时间和地点的合适商品和服务。

角色采购

- 安全利用供应市场的权力来增加支出价值，这涉及到从供应商支出中获得更多。
- 客户关系管理：金钱管理、需求/规范影响。
- 成本建模：供应商/市场分析、供应商管理和SRM；供应规划；项目管理；风险管理。
- 协商。
- 站点级别的战术 sourcing, ordering and expediting。

**Value of Sustainable Procurement Practice**

Work undertaken by PWC with Ecovadis\(^5\) targeted three key business areas:

- Cost Reduction

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\(^6\) CLES. Local Wealth Building. 2017

\(^5\) The CIPSA-Hackett Group. Procurement value, performance and capability study
in which business advantage could be demonstrated and carried out an evidenced based study. The results are illustrated below:

Extract from PWC-Ecovadis-Insead Report – Value of Sustainable Procurement Practice

A programme introduced by WRAP Cymru has focused on delivering improved value for money through the adoption of sustainable (public) procurement in support of the Welsh Government’s Procurement strategy. Construction is one of the priority sectors for this work.
which has resulted in a number of successes reported as published case studies, including the Cardiff Housing Partnerships affordable homes programme. In the latter savings of c£50k were achieved together with an anticipated 70t of CO2 and the avoidance of 5641t of waste to landfill through the resource efficiency measures introduced in the procurement process.

A series of case studies collated by the OECD provides some data on economic and environmental benefit from the implementation of sustainable procurement practices for major projects and also sets out the lessons learned.

Further European case studies covering a range of procurements, including industrial buildings, are reported by ICLEI on the Sustainable Procurement Platform.

There are also a series of published Guides which can support the development of a sustainable procurement policy. These include:

- A Guide to Socially Responsible Public Procurement
- Public Procurement for a Circular Economy
- Delivering Social Benefit through Public Procurement. A Toolkit
- Buying Social. A Guide to Taking Account of Social Considerations in Public Procurement
- Guidelines for Social Life Cycle Assessment of Products
- WIZARD. A Sustainability Criteria Tool

5.7 Supplier Engagement

Effective supplier engagement across the supply chain has been identified among the critical success factors for a sustainable procurement programme.

Successive reports on the construction sector, the most recent being the Farmer Report, have recognised the challenges to efficiency, cost effectiveness and productivity created by:

- Traditional adversarial approach to procurement principles and contracting
- Lack of collaboration – within client organisations; with suppliers; between suppliers (long supply chains)
- Limited incentive for investment in innovation, new sustainable techniques and technologies
- Skills shortages, low skills and polarised training
- High entry thresholds for SMEs.

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68 WRAP Cymru www.wrapcymru.org.uk/public-sector
70 ICLEI. Sustainable Procurement Platform. www.sustainable-procurement.org/case-studies/
71 Ministry of Economic Affairs and Employment Finland. A Guide to Socially Responsible Procurement. 2017
74 UNEP, Guidelines for the Social Life Cycle Assessment of Products. 2015
75 Swedish National Procurement Authority. A Sustainability Criteria Tool 2017
76 Farmer Review 2016. Modernise or Die
5.8 Market Engagement

A good working knowledge of the market and market conditions and the early engagement of suppliers were among the important lessons learned from the Olympic stadium development, together with the recognition of the project management team and lead contractors of the intelligent client principle.

The importance of market engagement has been addressed by the ICLEI SSP Regions Working Group with case studies and best practice examples recorded in the Market Engagement Best Practice Report. This report also covers the management of issues which can reduce the effectiveness of this approach, such as confidentiality, transparency and the difficulty of engaging the important SME cohort. It also reflects on the importance of early market engagement in driving innovation and innovative practices.

The SPP report which brings together experience from a range of countries sets out the following rationale for adopting market engagement as an integral part of the sustainable procurement process:

- Identify potential bidders and/or solutions
- Build capacity in the market to meet the requirement(s)
- Inform the design of the procurement and contract
- Help suppliers to submit strong bids.

The following criteria have been identified in work undertaken by the ICLEI Procura Network Early Market Engagement (EME) Group. The list seeks to summarise the variables which impact on the types of market engagement which might be appropriate:

- How complex is the product/service?
- How complex is the market?
- How mature is the market?
- What is the scope for innovation?
- What is the scope for delivering policy through procurement objectives, e.g. Social Value?
- What is the value of the contract – Sufficient to justify resource and time?
- What is balance of knowledge between buyer and supplier?

The following is a possible model for an EME Plan developed by the Group which embodies the wider work on market engagement:

- **Publishing a Forward Procurement Plan**
  Forward procurement plans give suppliers advance notice of what contract opportunities are coming up. It allows them time to adequately plan and prepare to submit good quality responses. This action can be completed by use of the EU Procurement PIN (Prior Information Notice) procedure. The information is most

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79 Kirsten Hanson. Learning Legacy. Lessons Learned from 2012 Games Construction Project. 2011
81 David Morgan. Cornwall Council. Leader ICLEI Procura Network Early Market Engagement Group
useful to suppliers when published alongside a series of Market Position Statement(s) for relevant areas.

- **Meet the Buyer / Meet the Supplier Event**
  Hosted days when suppliers can come in and speak to procurement officers on a 1:1 basis can be beneficial when trying to understand the current state of the market, particularly where innovation has been taking place.

The following activities could be adopted as a pre-procurement process to support the above:

- Supplier questionnaires, Market Sounding Questionnaires and Soft Market Tests
- Expression of Interest (EoI) or Prior Invitation Notice (PIN)
- Solutions ‘Show-and-Tell’
- Meeting with industry bodies
- Meeting with groups of key suppliers.

Network Rail used a similar model when developing the Wessex Capacity Alliance for the redevelopment of Waterloo Station and south west rail upgrade#2.

### 5.9 Supplier Collaboration

Long supply chains, competitive and adversarial behaviours have been identified as factors which have negative impact on efficiency, cost effectiveness and productivity in the construction sector (Farmer Report). Practitioner surveys referenced in this report have highlighted improved supplier engagement among the key success factors for an effective sustainable procurement process.

A CIPS report#3 defines collaborative procurement as being when two or more groups of people, or organisations, engaged in procurement, work together for mutual benefit. This interpretation is based on an earlier definition developed by Colin Cram#4.

The Constructing Excellence (CE) programme recognises and is based around the principles of collaboration and is described as ‘a platform for industry improvement to deliver excellence for clients, industry and users through collaborative working’.

CE as a not-for-profit organisation and wider movement reinvesting any surplus in further improvement activities has established a set of KPIs to which its members are expected to work. Although not specifically reflecting a response to a sustainable procurement policy, many of the values it promotes are consistent with the principles of a sustainable procurement policy.

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#3 CIPS. Collaborations Between Organisations: CIPS Positions on Practice. 2013

#4 Cram C. Two Heads: Always Better Than One, Government Opportunities, September 2003
5.2.1 Innovation Partnerships

As advocated in the European Commission Guidance c(2018) Innovation Partnerships which were first proposed in EU directive 2014/24/EU, allow solutions to be procured when no solution which meets the buyer’s needs is available on the market.

In an innovative partnership the innovation occurs during the performance of the contract as the buyer contracts with the best potential supplier(s) of innovation. The supplier is expected to create the innovative solution and ensure its real-scale implementation. In this situation a detailed specification is required which can best be developed using the Intelligent/Capable Client concept. Contracts establishing the innovation partnership are awarded on the best price-quality ratio proposed.

The Guidance proposed that the Partnership is a three-phase process:

- **selection phase** when one or more of the most suitable partners are selected on the basis of their skills and abilities.
- **research and development phase in which the new solution is developed** in collaboration with the buyer and includes concept evaluation, prototyping and testing performance.
- **commercial phase** in which the agreed solution is implemented.

5.2.2 Buyer/Supplier Collaborations

Buyer-supplier collaborations have been the subject of a number of studies by McKinsey. In *The Power of Successful Supplier Collaboration* the authors set out a number of examples of successful business arrangements. The report defines collaboration as ‘the joint development of capabilities for both customer and supplier for the purposes of cost reduction, process improvement and innovation in products and services. Its findings were based on a survey of 100 global corporates and clearly showed that those engaged in supplier collaborations grew faster. Successful collaborations were generally based on some form of incentivisation, for example extended contract periods, or the sharing of cost savings. Some collaborations extended to Joint Development Agreements (JDA) where both parties were engaged in capital expenditure designed to improve product or process.

These findings were confirmed in a report from Unilever which has adopted a global policy of supplier engagement. In a statement their Vice-President of Procurement identified that 70% of their innovation and €1.3bn of investment resulted from a policy of closer engagement with suppliers over a three-year programme. The company is now moving away from one-to-one relationships with suppliers to a requirement for greater collaboration across the supply chain.

Japanese companies have a long experience of successful collaboration as explained in “Supply Chain Collaboration”. In automotive, Toyota has always operated a strong supplier collaboration process, working with its key suppliers to deliver all the elements described in the McKinsey study which also reported that its key suppliers recognised this relationship to be of mutual benefit as illustrated in earlier work undertaken by McKinsey.

However it should be noted that not all collaborations were deemed to be successful and that some sectors found these arrangements to be more beneficial than others. In work

85 Moor, Satpathy, Shulman, Wullenweber. The Power of Successful Supplier Collaboration. 2013
87 Rey M. Supply Chain Collaboration, Business Briefing: Global Purchasing and Supply Chain Strategies, 2002
undertaken by BCG Consulting\textsuperscript{88} it was identified that buyers may need to focus on strategic partners, i.e. those who represent a high level of spend or specialism as shown in the diagram below:

![Diagram](image)

McKinsey\textsuperscript{89} also reflect on the reasons for less successful collaborations and have identified six success factors:

- Collaborate in areas of mutual benefit
- Ensure benefits available to both parties
- Focus on strategic alignment and not size (of business or budget)
- Ensure right infrastructure (IT systems) and people in place
- Establish joint performance management system with relevant metrics
- Provide for longer term collaboration.

In the public sector where direct collaboration may be more difficult to achieve, the creation of purchasing consortia or networks may be a more effective model. Purchasing consortia already exist across the UK: various models for purchasing collaboration in operation across North America and the UK are considered by Aylesworth in \textit{Purchasing Consortia in the Public Sector: Models and Methods for Success}\textsuperscript{90}.

Forms of buyer collaboration already in existence for the public sector include the Central Buying Consortium (CBC), which includes Coventry City Council and Central Housing Investment Corporation (CHIC): the latter being the result of a collaboration across Housing Associations.

\textsuperscript{88} BCG. Supplier Engagement: A Roadmap for Success. 2013  
\textsuperscript{89} Benavides, De Eskinazis, Swan. Six Steps to Successful Supply Chain Collaboration, 2012  
\textsuperscript{90} M Aylesworth: Purchasing Consortia in the Public Sector: Models and Methods for Success. Conference Proceedings 2003
5.2.3 Supplier Collaborations

Mutually beneficial collaborations between suppliers or across the supply chain have been identified as an important methodology for shortening supply chains and improving performance and productivity; thus benefiting the client – an important element for this research programme.

The UK Government’s Alliancing Code of Practice⁹¹, developed from the need to improve productivity and performance in the delivery of new infrastructure projects, sets out a definition and terms for creating effective supplier alliances.

An Alliance is defined as ‘a collaborative and integrated team brought together from across partners and owners to deliver a programme or project with:

- Shared commercial goals, aligned directly with customer or project outcomes.
- Integrated teams, developed on a best for task basis.
- Underpinned by a commitment to key working principles and trust based relationships.
- An emphasis on creating the right culture and behaviours, including no-blame.
- Strong, collective and unanimous leadership.

The Alliancing (Partnership) approach builds upon the concept of Intelligent Client. The Code of Practice has been embraced by the ICE and has been used in a number of major infrastructural developments.

5.2.4 London Underground Track Partnership

London Underground Ltd (LUL) adopted the principle for its track renewals programme which has an annual expenditure of £100m p.a. The aim was to establish a partnership with a mix of internal and external expertise under one management team to:

- Reduce unit costs by 25%
- Reduce management overhead cost by 15%
- Reduce duplication of management roles.

over a seven-year programme.

5.2.5 Surrey County Council – Operation Horizon

Surrey County Council adopted an Alliancing model with its Tier 1 supplier and across is supply chain with the aim of delivering 15% savings and improved warranties in its roads programme over 5- years. The plan developed with the Tier 1 contractor included:

- Clearly defined outcomes
- Five-year budget
- Close alignment between client and key supply chain partners.

Overall savings on £7m on a £60m budget and 10 year warranties have been achieved.

⁹¹ HM Treasury: Improving Infrastructure Delivery: Alliancing Code of Practice. 2015
5.2.6 Heysham to M6 Link Road

In the UK Costain and Tarmac partnered following an EME approach from their client for the construction of the Heysham to M6 link road in Lancashire. The overall new design produced at Early Contractor Involvement (ECI) stage has reduced the aggregate tonnage by nearly 25%, saving over 200,000 tonnes of raw materials, and enabled a reduction of nearly 9,000 m$^3$ of readymix concrete, just over 26%. This translates into a 21% saving of CO$_2$e from the original design, exceeding the 20% KPI$^{92}$.

**Measurement and Reporting**

The application of effective monitoring and measuring reporting and the implementation of a robust audit process are identified as key factors in the success of the Marrakech approach.

However academic research by Walker and Phillips$^{93}$ undertaken in 2009 identified the difficulty in moving the assessment of sustainable procurement from a concentration on environmental impacts to those covering socio-economic factors. The research paper based on discussions in focus groups comprising a mix of procurement professionals from the public and private sectors identified qualitative measures for the socio-economic group but did not ascribe quantitative indices.

The CIPSA-Hackett study in Australia identified some metrics which can be applied to a Smart & Sustainable Procurement Process$^{94}$. These can be aligned with the NAO approach and are illustrated below.

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$^{92}$ Costain and Tarmac: Sustainability through collaboration: Heysham to M6 link road in Lancashire. 2016

$^{93}$ Walker & Phillips

$^{94}$ CIPSA: The CIPSA-Hackett Group Procurement Value, Performance and Capability Study.2010
Measuring Impact

**ISO: 20400**

The following methodologies are identified:

- **Process indicators** – e.g. how many compliant contracts, how many people trained, how many suppliers engaged

- **Output indicators** – monitor suppliers’ performance on carbon emissions, waste volumes, number of local employees, local spend

- **Outcome indicators** – the contribution of the supply chain to overall organisational objectives, such as carbon footprint, workforce diversity etc

- **Impact indicators** – help to understand the wider impact on the environment or society, or “externalities”, e.g. impact on local unemployment figures, fuel poverty, or air quality.
<table>
<thead>
<tr>
<th>Strategic Theme</th>
<th>Critical Success Factors</th>
<th>Potential Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solution Quality</td>
<td>Output/Outcome Quality</td>
<td>No and value of contracts won by SMEs, social enterprises/voluntary sector No of sub-contracting opportunities advertised Value of sub-contracting opportunities advertised No of suppliers bidding UK content of supply chains</td>
</tr>
<tr>
<td></td>
<td>Production/Delivery/Construction Process</td>
<td>No of Contract Defaults from supply chain failures No of Supply Chain Disputes % sub-contract invoices paid late</td>
</tr>
<tr>
<td></td>
<td>On-time Delivery</td>
<td>No of supplier learning events No of revisions to documented work No of IPR developments</td>
</tr>
<tr>
<td>Costs</td>
<td>Lifetime Costs</td>
<td></td>
</tr>
<tr>
<td>Supply Chain</td>
<td>Supply Chain Accessibility</td>
<td>No of Contract Defaults from supply chain failures No of Supply Chain Disputes % sub-contract invoices paid late</td>
</tr>
<tr>
<td></td>
<td>Supply Chain Management</td>
<td>No of of contract related reportable injuries No of of contract related near misses Workforce time spent on H&amp;S training</td>
</tr>
<tr>
<td></td>
<td>Supplier Learning &amp; Continuous Improvement</td>
<td>No of supplier learning events No of revisions to documented work No of IPR developments</td>
</tr>
<tr>
<td>Employment &amp; Skills</td>
<td>Employment</td>
<td>UK jobs created No of individuals from disadvantaged groups Work time spent on job-related training Diversity and gender statistics</td>
</tr>
<tr>
<td></td>
<td>Workforce skills</td>
<td>No of apprenticeships No of work experience placements No of job-ready workshops</td>
</tr>
<tr>
<td>Environmental Sustainability</td>
<td>Energy Efficiency/Climate Change Impact</td>
<td>GHG emissions from contract of footprint of product/service CO2te GHG emissions per staff member CO2te % energy from sustainable sources Energy consumption reduction kWh</td>
</tr>
<tr>
<td></td>
<td>Resource efficiency</td>
<td>Resource consumption to performance over time t Input efficiency – resource to unit output t Waste from input resource t/% reduction % materials from sustainable sources</td>
</tr>
<tr>
<td></td>
<td>Waste &amp; Recycling</td>
<td>t waste generated t waste to landfill % waste recycled % of product reused/remanufactured</td>
</tr>
<tr>
<td>Health &amp; Safety</td>
<td>Community Benefit</td>
<td>No of charity/community events hosted Amount of surplus material donated Time made available to voluntary groups (volunteering) No of educational outreach events £s invested in local community £s invested in environmental improvement</td>
</tr>
<tr>
<td>Outcome Benefit</td>
<td>Legacy</td>
<td>After uses/Reuses</td>
</tr>
</tbody>
</table>
Social Performance Management System

A further tool available is the GSCP Reference Tool\textsuperscript{95} which can be used to monitor and measure social compliance across the supply chain.

6. Findings from Interview

A series of interviews were conducted with academics and practitioners from across the public and private sectors.

The key findings were:

- There continues to be interest in the topic among academics at national and international levels and an extensive library of research papers is available. The current focus is on supply chain management. However, there appears to be a limited connection between the more recent research findings and activity taking place at a business level.

- All the organisations represented in interviews had procurement policies. Most had clauses relating to sustainability. The focus remained largely on the environmental credentials of the supplier. In public bodies these generally reflected the generic legal requirements of the Social Value Act. Some policies included specific community benefit clauses with requirements for local employment and training measures.

- There remained generally a low level of support and understanding of the potential benefits of smart and sustainable procurement at senior level.

- When specific product guidelines were included in specifications, these were often as options and interviewees reflected that it was common for these to be removed in favour of lower cost options which did not reflect an LCA. It was noted that the acceptance of specific clauses relating to social value in public procurement had become less common as financial constraints became greater.

- If sustainability and social value measures were implemented, there was limited monitoring and feedback on performance and these measures were sometimes removed during the contract period to reduce cost increases and over runs.

- While the potential importance of early market engagement was acknowledged, resource capacity and time did not allow this to happen. There was also some fear that this type of engagement with suppliers could reduce competition and increase cost.

- There was often a concern within public bodies that a closer engagement with the supply chain would reduce the requirement to maintain transparency and ensure fair competition. There was also little differentiation between major and minor contacts and supply arrangements. The tender process had largely been outsourced to external bodies.

- None of those interviewed reported the adoption of ‘alliancing’ with suppliers.

- Few concessions to the SME community were identified in the regular tendering processes, although two specific and funded support programmes were identified.

- Innovation in supply was considered of importance but most organisations remained risk adverse when faced with an option of a new product or service. Achieving suitable accreditations and a recognised ‘track record’ remained a barrier to adoption.

- While practitioners recognised the value of an Intelligent Client approach few of those interviewed had adopted the methodology or applied prioritisation to procurement, although some case studies are now emerging.
• Use of framework agreements remained common, although it was noted that open tenders often produced improved costings and performance and one interviewee indicated that this method could become the ‘norm’.
• In the private sector the outputs from sustainable procurement initiatives are often not published to maintain competitive advantage.

There was a general consensus from the interviews that there is a lack of overall knowledge about the potential and advantages of adopting smart and sustainable procurement principles. Therefore the collation of key documentation, including case studies providing an evidence base and toolkits to facilitate process development, in a guidance document would be a valuable.
7. Conclusions

This research provides only a snapshot of the global interest and activity which is underway in this area and which supported by many international organisations. The focus of the study has been on desk research and published resources, and input from the appointed Steering Group, with a limited number of interviews taking place. Some interviews could not be scheduled in the time available.

It is noted that much of the published policy work is focused on public procurement while academic studies are aimed at business. However the outputs from the latter appear slow to translate into the working environment.

The headline findings of the study are:

Negative

1. Many of the challenges and barriers to the implementation of smart and sustainable procurement listed in this report remain current i.e.:
   - Lack of support at senior of Board levels in most organisation – procurement often sits within finance departments
   - Procurement policies are often generic and are not aligned to corporate or organisational strategies and approved policies
   - Short-termism still prevails with cost weighted higher in most organisations, especially at times of financial constraint and whole life costing or LCA are not used on a consistent basis
   - Tender and contract clauses which promote sustainable procurement and attempt to balance the price and quality equation are variable and are not applied consistently.
   - Prevailing culture (especially in the public sector) remains risk adverse
   - Specialist resources for procurement remain sparse and time prevents the adoption of the Intelligent Client principle and often limits access to up-to-date knowledge among practitioners
   - Published case studies demonstrating value, especially for the construction sector in the UK, are relatively limited.

2. There is a lack of relevant legislative framework in England.

3. Tender and contract clauses which promote sustainable procurement and attempt to balance the price and quality equation are variable and are not applied consistently. A ‘business as usual’ definition of MEAT is applied.

4. Sustainable procurement is still focused largely on ‘green’ and therefore on standard environmental issues such as GHG. Issues such as biodiversity and habitat management are generally overlooked in construction specifications and, with the exception of energy, the implementation of resource efficiency is relatively limited.

5. Clauses promoting social value (community benefit clauses) have been introduced but in England the weighting applied to these requirements is generally low (c5%).

6. Effective performance monitoring and measurement remains an area for development.

7. Evidence to validate the delivery of VFM criteria and business value is relatively limited, especially in the construction sector.
Positive

1. Legislation is becoming a driver for change in the devolved governments.
2. The publication of ISO:20400 provides an accessible guide to implementation and may help address some of the current constraints.
3. There are a range of published procurement strategies, many of which embrace the principles of sustainable procurement.
4. Sustainable procurement is now recognised as an effective business tool by a range of professional bodies (CIPS, ICE, IEMA), corporate business leaders, and national strategies and Codes of Practice.
5. Published toolkits are available to support the implementation of sustainable procurement.
6. Published evidence to validate the value of smart and sustainable procurement is growing.
7. The introduction of ‘smart’ provides an additional business focus to adoption.
8. Those interviewed agreed that the collation of key research and documentation including case studies would be an important tool to assist the further adoption and embedding of smart and sustainable procurement. The schematics which had been developed were acknowledged as useful.

Taking account of the above, the proposed outcomes from the study which focused on the preparation of a focused ‘Guide’ to support the consistent adoption of a smart and sustainable procurement policy appear valid.

The findings which include the identification of best practice both nationally and internationally can form the basis of the ‘Guide’ and a framework for a ‘step by step’ process tool is set out in the Appendix.
8. **Further Activity**

At the final meeting of the Steering Group held in April 2018 when the interim findings of the research were reviewed, some additional actions were suggested:

1. The findings should be presented and debated at the SHAP conference to evaluate the level of interest in this proposition.
2. A specific local data gathering exercise among SHAP members and contacts should be undertaken to identify current experience (positive and negative), relevant data and performance gaps.
3. If a web-based guide was to be developed, this should include a ‘buyer’s manual’ based on the requirements of a house construction and linked to a BIM presentation.
4. The schematics should be developed further and a web-based version produced.
5. The proposed draft Guide should be tested within an organisation, preferably a SHAP member.
6. While the proposed Guide was intended for SHAP members and the housing sector, partnering with organisations undertaking similar work, including the Supply Chain Sustainability School, should be considered.
Annex 1

Members of the Steering Group

Rosemary Coyne          SHAP
David Shiner            Coventry City Council
Niraj Thuriajah         BCU
George Davies           WHG
Paul Dockerill          WHG
Richard Baines          Energy Catapult
Gordon Shirley          CHIC
Mark Robinson           Trowers & Hamblin
Vicki Popplewell        Sandwell MBC
Kenny Aitchison         Keepmoat
Richard Bubb            SHAP Board Member
Emma Hines              Tarmac
Karen Hoey              Lovell
Tim Wade                Rooftop Group

Individual Consultees

Jonathan Phipps         Stoke City Council
Jonathan Whitmarsh      Nottingham City Council
Emma Hines              Tarmac
Prof Helen Walker       Cardiff U Business School
Steven Harris            Steven Harris Ltd
Sophia Tarr             UK GBC
George Simm             GLA
Cathy Jesson            BMHT
Ruth McCarthy           Homes England
John Watt               ICLEI
David Morgan            Cornwall Council