

Sustainable procurement guide

Print services

Office of the Chief Advisor - Procurement



**Queensland
Government**

Print services

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Purpose of this guide

This guide aims to provide minimum and best practice performance information and procurement responses for the engagement of print services. Its purpose is to influence the procurement of print services and improve sustainability outcomes over their life cycle.

Information within this document is intended to guide procurement professionals in considering and integrating sustainability principles into their procurement processes, and to guide industry as to government expectations in relation to the sustainability of printed products.

Target audience

Minimum performance criteria are considered to provide benchmarks for industry performance within the supply market.

For industry: This guide provides insight into current and potential government expectations in relation to the sustainability of print related services.

For procurement professionals: This guide provides information to guide the integration of sustainability principles into the procurement of print related services.

How to use this guide

This guide is commodity specific (print services).

Sustainability considerations should be incorporated at every stage of the procurement process. The interpretation, modification and suitability of the criteria must be considered by the contract manager at the time of planning a procurement arrangement.

Opportunities and strategies exist to address environmental and social impacts during procurement planning (including demand analysis), supplier engagement and through the management of supply arrangements.

The suggested criteria contained in this guide may be applied at any stage of the process. Consideration should also be given to where in the procurement process they should be applied for maximum benefit.

The suggested specifications will not be suitable for all agencies, nor relevant in all markets or procurement contexts. The sustainable procurement responses may be affected by factors including market readiness, availability of supply, product complexity and maturity, and organisational needs. Each procurement arrangement will be different.

Introduction to print services

Scope

For the purpose of this guide, print services are defined as any process where the final output is a printed or allied product (e.g. embossed cards). It includes printing and related processes, such as die-cutting, embossing, foiling and celloglazing.

Planning and design choices

This guide also considers the impact of design and planning decisions made prior to print production can have on environmental outcomes. These choices and decisions will predetermine many of the environmental impacts and waste streams associated with the printed material.

Although it is recognised that these decisions originate with the client and not the print service provider, there is a unique opportunity for the print service provider to play an influential role within their supply chain and ultimately contribute to minimising the environmental impacts of printed materials.

In recent years there has been exponential growth in the number of organisations promoting themselves and their goods and services as being 'green'. This extends to and often incorporates their marketing materials. The print service provider can potentially gain a competitive advantage by positioning themselves to offer more sustainable print choices to their clients and be able to respond to requests for more sustainable print products.

Fitness for purpose

For the purposes of this guide, it is assumed that the product shall be fit for its intended application and the purpose for which it was manufactured. The product must be accompanied by warranty periods emphasising durability performance. Products are assumed to be certified by Australian Standards or be approved by equivalent international standards.

Sustainability debate - printed versus electronic

It is commonly thought that electronic forms of communication, such as the internet, are more environmentally sound than printing on paper. The reality is much more complicated and recent research findings may be surprising.

In order to compare the sustainability impacts of both means of communication, consideration should be given to each stage of the life cycle including resource use, energy, water and waste streams.

Recent research compared the carbon impacts of communicating the *Stern Review on the Economic Climate Change* (a 700 page report) in both printed and electronic form. The result of the study showed that printing the report had a lower carbon impact than communicating the report via electronic media.

Specifically, the printed version of the document has been shown to generate 85 grams of CO₂ for the complete manufacturing process including the paper production. However, for every hour that a person reads the same document as a PDF on a typical desktop computer, 226 grams of CO₂ are generated.

It should be noted that while these findings indicate that printed means of communication may have a lower carbon impact, it does not consider other environmental impacts, such as the use of resources and generation of waste.

Print services: Summary of sustainability impacts and responses

Material choice and design

1. Paper choice

1.1 Paper fibre

Engage a print service provider that uses only paper that has the virgin pulp content certified as legally harvested from a sustainably managed forest/timber source.

1.2 Bleaching

Engage a print service provider that uses only paper that has no elemental chlorine used as part of the bleaching process.

1.3 Paper coating

Ensure the print service provider raises client awareness of the negative environmental impacts associated with the use of coated paper.

1.4 Paper weight

Ensure the print service provider uses minimum paper weight suitable for the type of material being printed, unless specified otherwise by the client.

2. Ink considerations

Ensure the print service provider uses vegetable-based inks whenever the printing applications allows, and raises client awareness of the negative environmental impacts associated with use of metallic inks.

3. Finishing and embellishments

Ensure the print service provider encourages clients to minimise the use of unnecessary coatings, adhesives, laminates and embellishments and offers alternative finishing choices that will minimise the environmental impacts of the printed materials.

Printing process

4. Generation of waste and hazardous chemicals

4.1 Waste

Ensure the print service provider has appropriate procedures and systems in place for management of waste, in particular recycling of waste paper and used printing plates.

4.2 Hazardous chemicals

Ensure the selected print service provider has appropriate procedures and systems in place for management and safe disposal of hazardous chemicals used in the printing process.

5. Energy use

Engage print service providers that can demonstrate initiatives to improve energy efficiency, reduce energy consumption and use renewable energy sources during printing and allied processes.

Packaging and transport

6. Packaging

Ensure all packaging for printed materials contains recycled content, is recyclable and contains no toxic substances.

7. Transportation

Engage a print service provider that can demonstrate initiatives to reduce emission impacts from transportation and distribution of printed materials.

Suggested criteria

Material choice

1. Paper choice

1.1 Paper fibre

- **Issue.** Virgin fibre used for paper production may be sourced from unsustainable or illegal forests, which can have severe adverse environmental and social impacts.
- **Response.** Engage a print service provider that uses only paper which has the virgin pulp content certified as legally harvested from a sustainably managed forest/timber source.

1.2 Bleaching

- **Issue.** The bleaching of pulp in paper manufacturing creates a hazardous by-product, which adversely affects aquatic ecosystems.
- **Response.** Engage a print service provider that uses only paper which has no elemental chlorine used as part of the bleaching process.

1.3 Paper coating

- **Issue.** Coating of paper can reduce the yield of useful fibre that can be recycled.
- **Response.** Ensure the selected print service provider raises client awareness of the negative environmental impacts associated with the use of coated paper.

1.4 Paper weight

- **Issue.** Use of heavier (or thicker) paper than is necessary for the print requirement consumes extra resources.
- **Response.** Ensure that the selected print service provider uses minimum paper weight suitable for the type of material being printed, unless specified otherwise by the client.

Minimum performance criteria	Best practice performance criteria
<p>Minimum specification:</p> <p>Paper fibre The contractor must ensure all paper used to meet client print requirements is certified as legally harvested from a sustainably managed forest/ timber source (e.g. certified by Forest Stewardship Council (FSC), Programme for the Endorsement of Forest Certification Schemes Council (PEFC) or other equivalent means). This applies to all virgin paper and mixed-source paper.</p> <p>Recycled content The contractor must be able to offer paper with recycled fibre content when suitable for client print requirements.</p> <p>Bleaching The contractor must ensure all paper used to meet client print requirements is Elementary Chlorine Free (ECF), Processed Chlorine Free (PCF), or Totally Chlorine Free (TCF).</p>	<p>Best practice specification or contract condition: None currently expected to be met by majority of the supply market.</p>
<p>Paper coating The contractor is required to raise client awareness of the negative environmental impacts associated with the use of coated paper.</p> <p>Paper weight The contractor must ensure all paper used to meet client print requirements is the lowest weight practical for producing a document suitable for its intended purpose, unless the client specifies otherwise.</p>	
<p>References: 1, 2, 3, 4, 5 and 7 (see <i>References</i>, below).</p>	

2. Ink considerations

- Issue.** Petroleum-based inks are made from a non-renewable resource and release volatile organic compounds into the atmosphere, which can have adverse impacts on human health and the environment.

Metallic and fluorescent inks do not decompose as easily as other inks and the heavy metal component can leach into groundwater when printed materials end up in landfill.

- Response.** Ensure the selected print service provider uses vegetable-based inks whenever the printing applications allows, and raises client awareness of the negative environmental impacts associated with the use of metallic inks.

Minimum performance criteria	Best practice performance criteria
<p>Minimum specification: <i>Vegetable-based inks</i> The successful offeror will be required to use vegetable based inks in producing client print requirements, whenever the printing application allows.</p> <p>Offerors must detail any printing applications where vegetable-based inks will not be used and steps being taken to implement the use of vegetable-based inks in these applications.</p> <p>Minimum contract condition: The contractor is required to raise client awareness of the negative environmental impacts associated with the use of metallic inks.</p>	<p>Best practice specification: <i>Metallic inks</i> Offerors must demonstrate steps that have been taken to minimise or eliminate the use of metallic inks and other inks that contain heavy metal additives (e.g. barium, copper and zinc).</p>
<p>Reference: 8 (see <i>References</i>, below).</p>	

3. Finishing choices and embellishments

- **Issue.** Some finishing choices and embellishments are used for purely cosmetic purposes only and bring no measurable benefit to the printed product while compromising the ability of the finished product to be recycled.
- **Response.** Ensure the selected print service provider encourages clients to minimise the use of unnecessary coatings, adhesives, laminates and embellishments and offers alternative finishing choices that will minimise the environmental impacts of the printed materials.

Minimum performance criteria	Best practice performance criteria
<p>Minimum contract condition: The contractor must be able to recommend and offer alternative finishing choices to clients that will minimise the environmental impacts of the printed materials.</p> <p>The contractor should encourage clients to minimise the use of the following finishing choices, as they reduce the ability of the printed material to be recycled:</p> <ul style="list-style-type: none"> • coatings such as celloglazes and laminates • use of glue in the binding process • embellishments such as foiling. 	<p>Best practice contract condition: When responding to client print requirements, the contractor is required to recommend and offer the following alternatives to clients:</p> <ul style="list-style-type: none"> • a heavier weight paper for rigidity as an alternative to lamination and PVC/acetate covers • saddle stitching as an alternative to burst or perfect bound wherever applicable • embellishments such as embossing as an alternative to foiling.

Printing process

4. Generation of waste and hazardous chemicals

4.1 Waste

- **Issue.** The printing process produces a significant amount of waste material in the form of used printing plates and paper waste, which are often sent to landfill. Other commodities such as plastic, cartons and general waste used in printing facilities also find their way to landfill.
- **Response.** Ensure the selected print service provider has appropriate procedures and systems in place for management of waste, in particular recycling of waste paper and used printing plates.

4.2 Hazardous chemicals

- **Issue.** Chemicals and inks used in printing processes are potentially harmful to the environment if disposed of in an unsafe manner.
- **Response.** Ensure the selected print service provider has appropriate procedures and systems in place for management and safe disposal of hazardous chemicals used in the printing process.

Minimum performance criteria	Best practice performance criteria
<p>Minimum specification: Waste management</p> <ol style="list-style-type: none"> 1. Offerors must demonstrate the steps that have been taken to identify waste generated from the printing process and implement procedures to minimise waste. 2. Offerors must demonstrate that there are procedures in place to recycle waste materials from printing processes, including arrangements with paper and metal recycling companies to dispose of paper waste and used printing plates. <p>Hazardous chemicals</p> <ol style="list-style-type: none"> 1. Offerors must demonstrate compliance with relevant local authority laws pertaining to the disposal of unwanted inks and chemicals. 2. Offerors must demonstrate that there is a contract in place with a registered hazardous waste contractor for the environmentally responsible disposal of hazardous waste produced during the printing process (e.g. drums, chemicals). 	<p>Best practice specification:</p> <p>Offeror must provide a copy of current documentation that formally demonstrates a system of environmental management is operating within the company. The system should encompass identification, evaluation, improvement and monitoring of environmental performance of the printing facility.</p> <p>The environmental management system must especially include a framework for action on waste and hazardous chemicals management. The system of environmental management may be ISO 14001 certified or Printing Industries Association of Australia <i>Sustainable Green Print Level 3</i>, in which case, a copy of the valid certificate is to be provided.</p> <p>Waste management</p> <p>Offerors must demonstrate that there are procedures and arrangements in place to manage the disposal and maximise recycling of miscellaneous waste.</p>

Use of water

Offerors are required to demonstrate initiatives to reduce the usage of water and provide details of reduction targets. This may include recycling water or improving the efficiency of the production processes to reduce the consumption of water.

Prepress processes

Offerors must employ a Computer To Plate (CTP) system that does not involve chemical processing and film used in traditional prepress processes, which may present potential disposal issues.

Proofing

Offerors must offer the option of "soft proofing" (PDF) as opposed to hard proofing for suitable non colour critical projects.

Graphic technology

Offerors must provide evidence of the implementation of AS/ISO12647-2 Graphic Technology in order to minimise wastage and spoilage and improve consistency of print quality.

5. Energy use

- **Issue.** Significant amount of energy is used in printing and allied processes.
- **Response.** Engage print service providers that can demonstrate initiatives to improve energy efficiency, reduce energy consumption and use renewable energy sources during printing and allied processes.

Minimum performance criteria	Best practice performance criteria
<p>Minimum specification: Offerors must demonstrate that strategies are being developed to improve energy efficiency, reduce energy consumption and utilise renewable energy sources.</p> <p>Offerors must disclose percentage of electricity used from renewable sources, type of renewable energy, and any third party certifications.</p>	<p>Best practice specification: Offerors must demonstrate:</p> <ul style="list-style-type: none"> • successful outcomes in reducing energy requirements • initiatives to reduce or offset greenhouse gases emitted in printing and allied processes, including any reduction targets that have been set and achieved, or any carbon offset credits achieved • that a proportion of energy used in their printing facility is from renewable energy sources either by onsite generation of renewable energy or direct purchases from the electricity grid which is fed by green power.
<p>Reference: 6 (see <i>References</i>, below).</p>	

Packaging and transport

6. Packaging

- **Issue.** Packaging utilises resources and generates environmental impacts during its production. Packaging may also contain toxic substances that can create pollution problems if not disposed of correctly.
- **Response.** Ensure all packaging for printed materials contains recycled content, is recyclable and contains no toxic substances.

Minimum performance criteria	Best practice performance criteria
<p>Minimum specifications:</p> <ol style="list-style-type: none"> 1. Offerors must provide a written declaration showing that paper used to wrap products and cartons/boxes used to package printed materials are recyclable in business or municipal recycling programs. 2. Offerors must provide a written declaration showing that cartons/boxes used to package printed materials contain a minimum of 50% recycled content. 	<p>Best practice specification:</p> <p>Offerors must provide a written description of packaging used for printed materials together with a corresponding declaration showing that:</p> <ul style="list-style-type: none"> • all cartons/boxes used for packaging contain 100% recycled content, including a written statement verifying the actual percentage of recycled content • chlorinated or halogenated plastics are not used in product packaging • wrappers and packaging do not contain any prohibited dyes.
Reference: 2 and 3 (see <i>References</i> , below).	

7. Transportation

- **Issue.** Most printed materials are delivered by road transport, using trucks or vans, thus utilising fuel and resulting in the release of greenhouse gases to the atmosphere.
- **Response.** Engage print service providers that can demonstrate initiatives to reduce impacts associated with transportation and distribution of printed materials.

Minimum performance criteria	Best practice performance criteria
<p>Minimum specification:</p> <p>Offerors must demonstrate that delivery vehicles are maintained in accordance with manufacturer’s specifications in order to achieve fuel efficiency and to minimise the output of greenhouse gases (e.g. regular servicing and tyre maintenance).</p> <p>Offerors must disclose any initiatives aimed at reducing fuel consumption and improving delivery efficiency.</p>	<p>Best practice specifications:</p> <p>Offerors must provide quantifiable evidence and reporting on implemented initiatives that reduce fuel use, reduce air pollution and mitigate emissions, associated with transport.</p> <p>This could include the use of ethanol-blended fuel in shipping/delivery fleets, or abiding by the National Environment Protection (Diesel Vehicle Emissions) Measure.</p> <p>Offerors must disclose greenhouse gas emissions associated with transportation and distribution of printed materials.</p>
Reference: 2 and 3 (see <i>References</i> , below).	

Integrating sustainable procurement throughout the procurement process

Sustainability considerations should be incorporated at every stage of the procurement process. Prior to incorporating any specifications or information contained within this guide:

- consider the specific market conditions and organisational needs prior to deciding if and where to apply these criteria
- document the options and decisions for how sustainability will be addressed in a plan for significant procurement or a business case.

Procurement planning

Demand analysis

Rethinking the need for a purchase can help avoid unnecessary consumption.

Consider both the 'need' for the business machine and how the use of the service is being managed. For example:

- explore opportunities to reduce the amount of material being printed (e.g. consider if the number of copies of printed materials can be reduced)
- specify printing choices and finishing options that will minimise environmental impacts (e.g. avoiding where possible, the use of unnecessary coatings, plastic laminates, foils, adhesives and labels).

Supply market analysis

Collect information to identify the capacity of the supply chain to deliver the products in accordance with sustainability requirements.

Use the sustainability issues identified in this guide to develop a pre-tender questionnaire that will help lead discussion with suppliers.

Conduct pre-tender supplier briefings in order to:

- engage potential suppliers, identify existing sustainable suppliers and develop an overall understanding of the market's sustainability performance and capability
- determine whether the recommended minimum performance criteria identified in this guide are sufficient or if the best practice performance criteria would be more suitable.

Identify opportunities for collaboration between government and industry/specific suppliers in relation to sustainability issues contained in this guide.

Industry specific initiatives aimed at improving the sustainability performance of the supply market may assist in identification of current environmental management practices and eco-efficiency projects in the industry (e.g. Sustainable Green Print Certification Program, developed specifically for the Australian print industry).

Supplier engagement

The criteria in this guide can be used to develop requirements in the Invitation to Offer documents, as follows:

- minimum performance criteria for print services may be set as mandatory specifications:
 - ensure that ‘mandatory’ requirements are able to be delivered by the majority of potential suppliers as those who do not meet the mandatory specifications are not evaluated during the tendering process.
- best practice performance criteria for print services criteria may be set as desirable specifications:
 - these criteria relate to industry leaders in the sustainability field and therefore it is unlikely that all suppliers will be able to compete on this level
 - best practice performance criteria provide a market for more sustainable products
 - specifying for best practices may incur a price differential. Identify whether or not there is a price differential in the upfront cost and whether ongoing savings maybe realised over the life of the product.
- a full value for money assessment should be undertaken. The whole-of-life environmental, social and economic gains that derive from improved sustainability outcomes may warrant an increased upfront cost.

Managing supply arrangements

Key Performance Indicators (KPIs) are an effective tool to ensure suppliers implement progressive sustainability improvements during the term of the arrangement. For example:

- if at the specification development stage it is determined that the potential supplier does not have a capability or capacity to meet a particular sustainability requirement at that point in time, the sustainability criterion may be set as part of KPIs. For example, the supplier may be required to progressively increase the proportion of renewable energy used in their production facility or increase the use of vegetable based inks in print applications
- best practice criteria that are set as KPIs could be used to progress a supplier towards best practice via continuous improvement over time. For example, the supplier may have to demonstrate that the company has an environmental management system (including tracking of waste streams) in place within the first 12 months of the commencement of the arrangement.

Reporting and measurement

Contract reporting requirements should specifically demonstrate the environmental and social benefits achieved by procuring more sustainable products.

Sustainability reporting requirements should be incorporated into contract/arrangement terms and conditions.

Measurements of sustainability performance could include improvements in the printing processes, such as reduced energy consumption, reductions in the use of hazardous chemicals or reduced waste to landfill.

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