Green Public Procurement

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Class 7&8 – Public Procurement and Energy Transition Science Po –
26th october and 9th november 2017
What are we taking about?

GPP

public

Procurement

Green
Outline

October 26th

• Definition of GPP
• Implementation conditions
• Economic Analysis
  • Lundberg, Marklund, Strömback, Sundström (2015) presented by Rebecka Oberg and Alice Lucken

November 9th

• Economic Analysis → policy recommendations
• Case studies
• Focus on the Energy Performance Contracting (EPC)
A definition

“Green Public Procurement (GPP) is a process whereby public authorities seek to procure goods, services and works...

... with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

...GPP is a voluntary instrument, which means that member states and public authorities can determine the extent to which they implement it.”

Examples of GPP

- Recycled paper
- Cleaning services using ecologically sound products
- Electricity from renewable energy
- Organic food in school canteens
- Eco stadium/low energy building
- Electric, hybrid or low-emission vehicles
- Energy efficient street lighting
- Energy efficient computers
- Organic cotton
Issues at stake

“Green Public Procurement (GPP) is a process whereby public authorities seek to procure goods, services and works... ... with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

GPP is a voluntary instrument, which means that member states and public authorities can determine the extent to which they implement it.

Public Procurement: You already know everything!


A choice: Is Public procurement an efficient environmental tool? What are the determinants of the choice?

Procurement process

• Define the needs (good and services): subject-matter
  – PP legislation is less concerned with what contracting authorities buy than how they buy it
  – No restriction on subject-matter BUT the choice may distort the level playing-field in PP for companies throughout EU (cf. competition)

• Basic principle: value for money
  – Identify the most economically advantageous tender (not only price but quality, efficiency, effectiveness)
  – Competition: fairness, non discrimination, equal treatment, transparency

• Choosing the procedure
  – Open, restricted, with negotiation, competitive dialogue, innovation partnership

• What criteria to apply and at what stages?
  – Selection and exclusion criteria, award criteria, contract performance clauses

• How to properly assess and verify performances?
Public procurement

The contracting authority evaluates the quality of the tenders and compares costs.
Use the predetermined award criteria published in advance.

MINIMUM REQUIREMENT (Specification) vs. PREFERENCE (award criterion)

Subject matter is service or work you want to procure:
description+ functional or performance-based definition → determines the permissible scope of specification and other criteria you may apply.

Specification: describe the contract to the market so that companies decide whether it is of interest to them → helps to determine the level of competition.
Provide measurable requirements against which tenders can be evaluated (minimum compliance criteria).

Technical specification: linked to the product, work, service not to the operator.

Performance-based or functional specification: describe the desired result and expected output (quality, quantity, reliability).

Specification of materials and production methods:

Set out the types of evidence of compliance which bidders can submit (indicative list).
Exclusion criteria: circumstances in which an operator can find itself that can cause contracting authorities not to do any business with it.
Selection criteria:

Execute and enforce the contract

Identify the need

Specification and subject matter

Choosing an award procedure

Write the call for tender

Evaluate the offers

Award the contract
Selection criteria assess the suitability of an economic operator to carry out a contract. In two-stage procedures, they form part of the initial expression of interest stage, and can also be used to shortlist or reduce the number of candidates invited to tender. In an open procedure they may be assessed on a pass/fail basis, either before or after tenders are evaluated. The procurement directives provide an exhaustive list of the criteria which can be applied to select operators, and the types of evidence which may be requested from them.\textsuperscript{67}
Procurement process

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  - Identify the most economically advantageous tender (not only price but quality, efficiency, effectiveness)
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- How to properly assess and verify performances?
To be more concrete...

Green Procurement Considerations

- Could I repair or refurbish the old item instead of purchasing a new one?
- Can I loan, lease or buy it from someone else/another department at LSE?
- Does the product make efficient use of resources? Does the product use energy, fuel or water more efficiently or uses less paper, ink?
- Is the product recyclable (do local facilities exist that are capable of recycling the product at the end of its useful life)?
- Is the product biodegradable?
- Does the product contain recycled material? Do we really need to buy a virgin product when the recycled version is of the same quality?

http://www.lse.ac.uk/intranet/LSEServices/estatesDivision/sustainableLSE/LSEsustainabilityProjects/Sustainable-Procurement/Home.aspx
GPP

Pre-procurement phase

Identifying the main environmental impacts

Transport écologique, emballage recyclés, recyclage des produits finis, dilution des produits chimiques

Outils de suivi?
Mesures et vérification?

Subject-matter, Sourcing:
- discussion with potential suppliers to better know the market (greener alternatives),
  - Eco-label certification (standard e.g. ISO14001, 14024 or Specific)
  - On suppliers: (EMAs registration, ISO 14001)

Specifying or award criteria?
Weighting approached
Using label

Find a green « title for the contract »

LCC introduction?

More incentives
More complexity
More uncertainty
More competences needed
Cost?
Efficiency?

...
Green titles

Green titles in contracts across Europe

Increasingly green titles are being used in tenders to send a signal that environmental impacts are considered within the contract. The following are examples of this:

- **Provision of energy-efficient public lighting in Co. Kerry** (Kerry County Council, Ireland)
- **Internal finishing works, using environmentally friendly construction materials and products** (University of Malta)
- **Service contract for energy savings in 12 schools** (Catalan Ministry of Education, Spain)
- **Supply of ecological and recycled paper** (SCR Piemonte, Italy)
Selection criteria for GPP

• To establish whether an operator has suitable capacity to carry out the environmental aspects of a contract:

The most relevant selection criteria for GPP purposes relate to technical and professional ability:

• Human and technical resources
• Experience and references
• Educational and professional qualifications of staff (if not evaluated as an award criterion)\textsuperscript{68}
• Environmental management systems and schemes (e.g. EMAS, ISO 14001)
• Supply chain management/tracking systems
• Samples of products
• Conformity assessment certificates
Using labels

Third-party labels can be used in several ways under the 2014 directives, and in certain cases it is possible to require a label as part of technical specifications. To use a label in this way, it is necessary to look at the requirements for obtaining the label to confirm that:

i. they only concern criteria which are linked to the subject matter of the contract;

ii. they are based on objectively verifiable and non-discriminatory criteria;

iii. they are established using an open and transparent procedure in which all relevant stakeholders, including government bodies, consumers, social partners, manufacturers, distributors and non-governmental organisations, may participate;

iv. they are accessible to all interested parties;

v. they are set by a third party over which the economic operator applying for the label cannot exercise a decisive influence.\textsuperscript{50}
Greening the procurement process: in practice?

% of public buyer declaring that they take environmental criteria into account in the procurement process

10% use environmental criteria in the execution of the contract.

23% in the Award criteria

54% on the good/service
35% on the supplier (expertise technical)

Subject matter is service or work you want to procure: description + functional or performance-based definition

Results in Testa et al. (2012) Italian data

Identify the needs
Write the specification and subject matter
Choose an award procedure
Prepare the call for tender
Evaluate the offers
Award the contract
Execute and enforce the contract
GPP caveats 1: Greenwashing!!!

Avoiding greenwash

An increasing number of companies market themselves as being green or sustainable, not always with the evidence to back this up.

For example, suppliers may claim an exaggerated level of energy efficiency, or focus on a relatively minor environmental impact in claiming to be green. For this reason it is important that:

- You familiarise yourself with the environmental impacts of your intended purchase, prior to issuing your tender
- Your technical specification is based on an assessment of environmental impacts across the life-cycle of the product (e.g. from a third-party environmental label)
- You ask for appropriate proof from the supplier for the environmental performance they claim (see Section 3.6)

Buying green 2016
GPP caveat 2: cost-efficiency
1 - Between different environmental instruments
2 - Between different contractual modes

THE CHOICES
The context: need for environmental policy

- World population increases so does demand for energy, water, food but resources scarcity: need to accommodate waste and emissions → circular economy/ green economy (SOER – 183-195)
• Climate change and energy & ecological transition: need to reduce energy demand and increase energy efficiency + reduce environmental damage 
environmental policy/ green growth
The European environment — state and outlook 2015

• [https://www.eea.europa.eu/soer](https://www.eea.europa.eu/soer) (70-105)
Green public procurement as an environmental instrument

- [Avec cette réforme de la commande publique] « nous parviendrons, à force de volonté politique et d’audace administrative, à faire de la commande publique un véritable instrument au service de l’économie réelle, de l’innovation, de la responsabilité sociale et de la transition énergétique. » E. Macron (juillet 2015)

2016: Réforme du droit de la commande publique
Transposition des Directives 2014/23/CE- 24/CE
Juillet 2015: un code unique pour 2016
Janvier 2016: les premiers décrets:
http://www.economie.gouv.fr/daj/marches-publics
## EU legal framework

<table>
<thead>
<tr>
<th>Legislation/policy</th>
<th>Relevance</th>
<th>EU legal framework</th>
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<tbody>
<tr>
<td>Treaty on the Functioning of the European Union</td>
<td>Provides the basis for EU procurement regulation and sets out fundamental principles</td>
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<td>Directive 2014/23/EU on the award of concession contracts</td>
<td>Concessions directive (applies to both public and utilities sectors)</td>
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<tr>
<td>Europe 2020: A strategy for smart, sustainable and inclusive growth COM (2010) 2020</td>
<td>EU strategy which sets specific targets to be achieved by 2020. GPP is mentioned as one of the measures to achieve sustainable growth and in the <strong>Innovation Union, Resource-efficient Europe and Energy 2020</strong> initiatives</td>
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<td>Public procurement for a better environment COM (2008) 400</td>
<td>Provides guidance on how to reduce the environmental impact caused by public sector consumption and how to use GPP to stimulate innovation in environmental technologies, products and services.</td>
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<tr>
<td>Staff Working Document accompanying COM (2008) 400 SEC (2008) 2126</td>
<td>Provides useful guidelines for public authorities on the definition and verification of environmental criteria, tools for stimulating GPP and examples for a number of product groups. It also offers legal and operational guidance.</td>
<td></td>
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<tr>
<td>Closing the loop - An EU action plan for the Circular Economy COM/2015/0014 final</td>
<td>Identifies GPP as a key component of the circular economy; the need to address issues such as durability and reparability in GPP criteria, and for the Commission to support GPP implementation.</td>
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<tr>
<td>Pre-commercial Procurement: Driving innovation to ensure sustainable high quality public services in Europe COM (2007) 799</td>
<td>Sets out a methodology for the procurement of research and development services that are exempt from the directives</td>
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<td>Directive 2012/27/EU on energy efficiency</td>
<td>The Energy Efficiency Directive requires central government authorities to only purchase highly energy-efficient products, services and buildings, Annex III of the Directive sets out the approach which applies to each product/service sector.</td>
<td></td>
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<tr>
<td>Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles</td>
<td>The Clean Vehicles Directive sets mandatory GPP requirements for road-transport vehicles, relating to emissions and energy consumption</td>
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<tr>
<td>Regulation No 106/2008 on a Community energy-efficiency labelling programme for office equipment</td>
<td>The Energy Star Regulation sets mandatory GPP requirements for office equipment purchases</td>
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<tr>
<td>Directive 2010/30/EU on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products</td>
<td>The Energy Labelling Directive requires certain products (e.g. air conditioners, dishwashers, lamps) to be labelled with a standardised energy class. These classes are currently subject to revision under a proposal from the Commission.</td>
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<td>Regulation No 66/2010 on the EU Ecolabel</td>
<td>The Ecolabel and EU GPP criteria are harmonised to the extent possible</td>
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<tr>
<td>Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products (recast)</td>
<td>The Ecodesign Directive provides the main EC framework for the development of environmental criteria for energy-related products</td>
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<tr>
<td>Regulation No 1221/2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS)</td>
<td>The EMAS Regulation provides reference to how EMAS may be taken into account in public procurement</td>
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<td>Regulation No 955/2010 laying down the obligations of operators who place timber and timber products on the market</td>
<td>The Timber Regulation provides a framework for ensuring legality of timber available on the EU market</td>
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<td>Directive 2012/19/EU on waste electrical and electronic equipment (WEEE)</td>
<td>Directive providing for the separate collection, treatment and recovery of waste electrical and electronic equipment, and setting relevant design requirements</td>
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<tr>
<td>Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)</td>
<td>Sets requirements for manufacturers, importers and distributors of electrical and electronic equipment regarding hazardous substances identified in the Directive, and rules regarding the CE marking</td>
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<tr>
<td>Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)</td>
<td>Manufacturers are required to register the details of the properties of their chemical substances and safety information in a central database.</td>
<td></td>
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<tr>
<td>Directive 2009/28/EC on the promotion of the use of energy from renewable sources</td>
<td>Sets mandatory national targets for share of electricity from renewable sources, rules on guarantees of origin and sustainability criteria for biofuels and bioliquids.</td>
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<td>Directive 2008/96/EC on waste (Waste Framework Directive)</td>
<td>Sets the basic concepts and definitions related to waste management and lays down waste management principles such as the “polluter pays principle” and the “waste hierarchy.”</td>
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Different environmental policy instruments

• The mean used by the environmental authority to promote the implementation of measures by the agents or to change their behaviours in a desired direction.

• 3 types of instruments
  1. Command and Control or direct regulation instruments
  2. Economic or market instruments
  3. Information instruments/ Awareness raising
     – energy efficiency, organic, eco-friendly, labels and communication campaigns, Nudges

no single policy instrument can provide solutions to all problems: https://hal.archives-ouvertes.fr/hal-00306212/document
Command and control instruments

• Need of an environmental authority to define targets, rechnologies and behaviours to be adopted
• Usually mandatory instruments with sanctions
• Type of normes
  – Emission norms (set the max. limit for rejectif of polluant)
  – Environemental quality norms (set the allowed concentration of polluant)
  – Product norms (define the characteristics of the product)
  – Procedural norm (technical process)

😊Assure that the environmental goals are respected
😢No incentive to go beyond the norm/ no innovation
😔might be very costly. Cost effectiveness?
Market based instruments

- Ex: emission taxes, utilization taxes, subsidies (emission reduction) licences/rights transaction (CO2 market)
  - Cost covering charges: Application of the “polluter-pay principle”
  - Incentive taxes: aim at encouraging a change on economic agents behaviors in order to reduce environmental damage
  - Allocation of property rights/ market instruments: 2 steps: (1) definition/distribution of PR; (2) transaction of PR among agents
- Internalization of the environmental costs into the prices of the relevant products and activities
- Based on the correction/distortion of prices in existing markets or in the creation of new markets that will internalize the externalities (Coase, 1960)
- “A broader use of environmental taxation or other pricing instruments such as emission trading systems is one of the most efficient and effective ways to promote green growth. Environmentally related taxes increase the cost of polluting products or activities, which discourages their consumption and production – regardless of whether this was the intended purpose of the tax or not.” (OECD: http://www.oecd.org/env/tools-evaluation/environmentaltaxation.htm)
Market based instrument

😊 Do not oblige the agents to meet a goal set, to use certain technology or to adopt a particular behavior

😊 Incorporate the costs of environmental damage into the prices of goods, services or activities which give rise to them

😊 Create incentives for producers and consumers to shift away from environmentally-damage behaviors

😊 May act as a spur to innovation
Information instruments

• Pretend to inform about the quality of environnement and the pollution generated

- **Toxic Release Inventory Program**: since 1987, in USA, all the companies that import, produce or process toxic substances have to elaborate annual reports with information about it.

- **Ecological Label**: instrument of volunteer information because only the interested producers compete to it. In result, the consumers can identify the products with less environmental impacts and being admissible a preference for them and also to pay more.

- **Biological Agriculture Certification**

- **Blue Flag** on EU beaches that fulfill requirements of cleaning and water quality.
Choosing the most appropriate environmental instrument?

• NO “ONE SIZE FITS ALL” ⇒ the question is not “which instrument is best” but rather “which mix of instruments is best” (EEA, 2005): https://www.cbd.int/financial/doc/eu-several.pdf

• “what works?”
• “how does it work?”

From an economic point of view:
• “at what cost?”
• “what are prerequisites/ efficiency conditions for making it work?”
Evaluating the efficiency/ies of an instrument

- **Environmental Effectiveness**
  The capacity to fulfill the goal defined by the environmental authority

- **Economic Efficiency**
  The capacity to reach the environmental goal with the least cost possible (better relation cost-effectiveness)

- **Dynamic Efficiency/Incentive to technological development**
  Incentive to innovation offered by the instrument, make use of more efficient technologies to control pollution

- **Equitability and political acceptance**
  Distribution of benefits and costs among the society actors, as well as public involvement and acceptance from the agents

- **Revenues**
  The capacity to raise revenues and how to use those revenues

- **Enforcement capacity**
  The capacity of the authority to put into effect the environmental legislation
Saussier, Tirole (2015)

Renforcer l'efficacité de la commande publique

Les notes du conseil d'analyse économique, n° 22, août 2015

La commande publique, terme générique qui englobe les marchés publics, les obligations de service public et les contrats de partenariat, représente aujourd'hui des montants considérables, évalués à près de 15 % du PIB. Si la commande publique doit viser la meilleure performance possible en termes de coûts et de services, elle est négligemment menacée du dogmatisme de son inefficacité. Or, les gains liés à sa meilleure gestion pourraient être substantiels. L’objet de cette note est de réfléchir aux moyens d’en faire possible, dans le cadre des engagements réglementaires et en vue du, au moins exemplaire, pour renforcer l’efficacité de la commande publique.

Les contes par lesquels s’établit la commande publique sont ceux de la complexité des interactions (interactions) et du manque d’information (informatique) et de l’incertitude économique que la partie privée et à l’entreprise privée et à l’entreprise publique (par exemple) peuvent engendrer. Du fait, la commande publique est une entreprise publique qui est négligemment menacée du dogmatisme de son inefficacité. Or, les gains liés à sa meilleure gestion pourraient être substantiels. L’objet de cette note est de réfléchir aux moyens d’en faire possible, dans le cadre des engagements réglementaires et en vue du, au moins exemplaire, pour renforcer l’efficacité de la commande publique.

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1. **Recommendation**. 1. **Recognise** that the aim of public procurement, regardless of the values at stake, is primarily to meet an identified need by achieving the best possible performance in terms of cost and service or expected functionalities. Entrainant the public procurement system with the task of achieving social, environmental and innovation-related objectives is ineffective.
Clarifying the objectives of the public procurement system

As we have seen above, the significant amounts at stake in the public procurement system make it a potential lever for achieving social, environmental and innovation-related objectives, in which case the public authority must incorporate these criteria at the contractor selection stage. The new directives on traditional procurement and concession contracts leave it up to the States to decide whether these objectives are compulsory or optional. It is important to note that the public authority has at its disposal a number of more direct and effective ways of achieving the objectives pursued (by means of taxes and/or subsidies), without challenging the legitimacy of such objectives. It is incongruous, for example, to barely tax carbon emissions whilst incorporating vague environmental sustainability criteria into public contracts.
Using public procurement to achieve social, environmental and innovation-related objectives is ineffective for a number of reasons. Firstly, a policy designed to rectify a market failure must be uniform and comprehensive if it is to be effective. Conversely, and by way of an example, incorporating greenhouse gas emission criteria into public procurement operations amounts to placing a greater value on a tonne of carbon than does the carbon tax or the market value of tradable emission rights, which is ineffective for two reasons. On the one hand, as is the case with any policy that entails differentiated carbon prices, this increases the overall cost of achieving the environmental objective. On the other hand, a low-emission company will specialise in public contracts, in which it will have a competitive advantage, whilst its higher-emission counterpart will specialise in other contracts, whether public or private, that are not bound to this objective; as a result, contracts are not necessarily shared rationally and the reduction in pollutant emissions is minimal.
Furthermore, such objectives give rise to certain difficulties with regards to measurement. Unlike the State, local public authorities do not necessarily have the means to measure pollution. Moreover, companies often operate in a number of markets, both public and private, so how does one establish whether such pollution is linked to the activity in question or to another (since the company will always choose the most beneficial allowance)? Furthermore, differentiation between companies will be more intense as a result, thus reducing the intensity of the competition between them. Finally, taking into account various objectives increases the (ever-present) risk of favouritism. A public authority can, for example, place great importance on the implications in terms of local employment.
Paper presented by Rebecka and Alice

LUNDBERG ET AL. (2015)
THE CHOICES

1 - Between different environmental instruments
2 - Between different contractual modes
GPP and type of contract

- Traditional public procurement

- PPP/Contrat de partenariat

- Concession contract

- Traditional public procurement
Efficiency condition

• Which contractual mode is better adapted for each type of procurement?
• What are the efficiency conditions?

• http://www.oecd-ilibrary.org/docserver/download/5k92p0c6j6r0-en.pdf?expires=1510073993&id=id&accname=guest&checksum=8905C924887BE9DE54F328DDCE94EE63
For next course

http://www.c40.org/
Choose one C40 city

- A green product
- The type of contract
- Which criteria
- Competition
- The procedure
- The implementation
Choose a GPP National Action Plan

- Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, UK
6 quantitative targets for 2020: PNAAPD

1. 25% of contracts awarded during the year include at least one social provision.

2. 30% of contracts awarded during the year include at least one environmental provision.

3. At the requirement definition stage, 100% of the markets are thoroughly analyzed to determine whether sustainable development objectives can be taken into account in the market.

4. 60% of public organizations (state services, public institutions, local authorities and local public institutions, hospitals) are signatories of the charter for sustainable public procurement in 2020 (charter promoted by this action plan).

5. 100% of the products and services purchased by public buyers are energy-efficient products unless the overall cost of energy-efficient products and services is higher than that of conventional products and services, and to the extent that it is compatible with technical adequacy and sustainability in the broad sense.

6. 80% of organizations that purchase paper, printing devices, supplies, furniture, clothing, office equipment take into account the end-of-life of these products, whether in the execution conditions of the market or in a global approach of management of the end of life of the products (recycling, reuse, treatment of waste ...

- [https://www.ecologique-solidaire.gouv.fr/sites/default/files/SNTEDD%20-%20Le%20premier%20rapport_0.pdf](https://www.ecologique-solidaire.gouv.fr/sites/default/files/SNTEDD%20-%20Le%20premier%20rapport_0.pdf)
France: Stratégie Nationale de Transition Ecologique vers un Développement durable

Quelques chiffres clés de l'action du ministère en 2 ans :

- 2 lois majeures
- 400 territoires à énergie positive pour la croissance verte
- 153 territoires zéro déchet zéro gaspillage
- 110 communes sans pesticides (4500 engagées dans la démarche)
- 99 projets de transports en commun en site propre
- 22 villes respirables en 5 ans
- Zéro sac plastique à usage unique au 1er juillet 2016
- +25 % d'énergies renouvelables et 250 centrales photovoltaïques
- Doublement du nombre de voitures électriques
- 30 % de crédit d'impôt transition énergétique
- +15 000 emplois verts (+ 8 000 dans l'isolation, + 2 000 dans l'éolien, perspective de + 5 000 dans le solaire)
- 100 start-up de la green tech verte
- 16 démonstrateurs ville durable
- 25 centimes d'indemnité kilométrique vélo
- 4 (vignettes) certificats qualité de l'air
- 11 réunions plénières du conseil national de la transition écologique 2016

• https://www.ecologique-solidaire.gouv.fr/sites/default/files/SNTEDD%20-%20Le%20premier%20rapport_0.pdf
PARIS: Nouveau plan climat (11/2017)

https://www.paris.fr/actualites/nouveau-plan-climat-500-mesures-pour-la-ville-de-paris-5252
Favoriser le développement des éco-filières et de l'innovation

Paris soutient plus de 50 PME innovantes par an spécialisées dans l'économie verte, sous forme de financement de projets de recherche et développement individuels et collaboratifs, de lancement de nouveaux produits et services, de création d'emplois. Le financement de projets demeure un tremplin essentiel pour les jeunes entreprises innovantes qui peuvent mobiliser notamment le Fonds "Paris Innovation Amorçage" et la garantie "Paris Finance Plus" gérés par Oséo 19.

Faciliter l'accès de ces entreprises à la commande publique parisienne représente un enjeu majeur. À ce titre, des rencontres thématiques entre PME et acheteurs/prescripteurs de la Ville sont régulièrement organisées. La Ville leur offre également la possibilité de mener des expérimentations de leurs nouvelles solutions sur le domaine public afin d'améliorer leurs technologies à l'instar de l'appel à projets "Éfficacité énergétique du bâtiment" conduit par le Paris Région Lab' avec l'appui de l'Agence Parisienne du Climat. Expérimenter les projets innovants en matière d'éco-construction ou d'énergies renouvelables constitue aussi l'un des engagements phares de la convention de partenariat entre la Ville de Paris et le département de la Seine-et-Marne, signée en février 2011.

19 Entreprise publique en charge de l'accompagnement des PME dans le financement de l'innovation.

- Pour développer de façon pérenne l'implantation de PME innovantes et de nouveaux emplois dans la filière de l'économie verte, 14 000 m² de surface de bureaux leur sont dédiés prioritairement au sein de l'incubateur - hôtel d'entreprises Paris Région Innovation Nord Express dans le 18e et du futur incubateur d'entreprises de l'éco-quartier de la ZAC Boudicaut. Ces deux bâtiments répondent aux critères du Plan Climat de 50 kWh/m²/an.

- Le soutien de la Ville s'étend également aux réseaux professionnels tels que la grappe d'entreprises éco innovante Durapole, association fédérant des PME de pointe en matière environnementale, et le pôle de compétitivité francilien dédié aux éco-technologies de la ville durable : Advancy.
Il est important de susciter la demande pour que les filières s'organisent. Il est parfois délicat pour un acheteur public ou privé de trouver les produits innovants au cycle de vie durable. Les entreprises développant ces produits sont souvent de petites entreprises ne disposant pas de toute l'infrastructure nécessaire pour répondre aux besoins de régularité et de volume des grands comptes.

Depuis 2007, la Ville de Paris s'organise pour faciliter l'accès de ces entreprises à la commande publique parisiennes. Des rencontres thématiques entre PME et acheteurs des services de la Ville sont régulièrement organisées. La Ville leur offre également la possibilité de mener des expérimentations de leurs nouvelles solutions sur le domaine public.

La Ville de Paris a introduit dans quasiment tous ses marchés publics de prestations de service ou d'achat de biens des critères environnementaux et sociaux, dont les exigences augmentent au fur et à mesure des performances et des normes.

Des efforts particuliers porteront sur l'accès simplifié de la commande publique municipale aux produits et services durables. La Ville de Paris travaille étroitement avec l'association Pépite PME dans son action de sourcing des PME éco-actives afin de faciliter leur accès aux appels d'offres.

Cette démarche sera communiquée aux grands comptes Parisiens pour amplifier la commande d'achats durables sur Paris. Il est essentiel d'envoyer des signaux forts aux producteurs pour générer des filières de PME de production et distribution de produits et services responsables, comme le font d'autres réseaux de villes.

Marché parisien, 12e
Les enjeux des MPE dans les villes

Entre 2004 et 2007, la ville de Vienne a économisé 44,4 millions d'euros et plus de 100 000 tonnes de CO2 grâce à son programme d'achats écologiques.

Si tous les achats informatiques en Europe suivaient l'exemple du conseil municipal de Copenhague et de l'Agence de développement administratif suédoise, la consommation d'énergie serait réduite d'environ 30 térawattheures, soit environ l'équivalent de quatre réacteurs nucléaires.

Les émissions de CO2 seraient réduites de 15 millions de tonnes par an si toute l'UE adoptait les mêmes critères environnementaux en matière d'éclairage et d'équipement de bureau que la municipalité de Turku, Finlande, ce qui permettrait de réduire la consommation d'électricité de 50%.
GPP in Rhône Alpes

<table>
<thead>
<tr>
<th>No.</th>
<th>Location</th>
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<tbody>
<tr>
<td>1</td>
<td>VILLE DE MEYLAN</td>
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<tr>
<td>2</td>
<td>CONSEIL GÉNÉRAL DE L’ISÈRE</td>
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<tr>
<td>3</td>
<td>CONSEIL GÉNÉRAL DE LA DRÔME</td>
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<td>VILLE DE VILLEURBANNE</td>
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<td>5</td>
<td>VILLE DE CHAMBERY</td>
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<td>6</td>
<td>VILLE D’ANNECY</td>
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<td>7</td>
<td>GRAND ROANNE AGGLOMÉRATION</td>
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<td>LA METRO</td>
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<td>VILLE DE LYON</td>
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<td>VILLE D’ÉCHIROLLES</td>
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<td>12</td>
<td>VILLE DE ROMANS-SUR-ISÈRE</td>
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<td>13</td>
<td>CONSEIL GÉNÉRAL DE LA LOIRE</td>
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<td>14</td>
<td>VILLE DE FEYZIN</td>
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<td>VILLE DE VIENNE</td>
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<td>16</td>
<td>VILLE DE CREST</td>
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<td>REGION RHÔNE-ALPES</td>
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<td>18</td>
<td>VILLE D’ULLINS</td>
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<tr>
<td>19</td>
<td>CONSEIL GÉNÉRAL DU RHÔNE</td>
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<tr>
<td>20</td>
<td>VILLE DE GRENOBLE</td>
</tr>
<tr>
<td>21</td>
<td>GRAND LYON</td>
</tr>
</tbody>
</table>

**Legend:**
- **ALIMENTATION**
- **BUREAU**
  - Fournitures
  - Papier
  - Reprographie
  - Informatique
  - Mobilier
- **ESPACES VERTS**
- **NETTOYAGE**
- **TRANSPORT**
- **TRAVAUX**
- **THEMES TRANSVERSAUX**
  - Chantiers
  - Communication
  - Insertion
# Food procurement in Meylan (France)

## Specifications techniques
- Les candidats devront proposer des denrées alimentaires (ou x % de denrées alimentaires):
  - issues de l’agriculture biologique ou équivalent en conformité avec le règlement 2092/91CEE modifié concernant le mode de production biologique des produits agricoles et le règlement 1804/1999 CE concernant les productions animales d’origine biologique
  - répondant aux critères du commerce équitable définis par FLO, IFAT ou équivalent.

## Critères de sélection des candidatures
- Il peut être demandé aux candidats de rendre un mémoire de leur choix dans lequel seront mentionnées les mesures prises par l’entreprise en matière de protection de l’environnement et d’insertion sociales.

## Critères d’attribution
- Tous les critères pourront être notés sur un total de 100 points par exemple de la manière suivante:
  - Prix : 60 points
  - Performances environnementales et sociales : 30 points
    - Part de production biologique : 15 points
    - Part de produits issus du commerce équitable : 15 points
  - Délai de livraison : 10 points

## Conditions d’exécution
- Les produits devront être emballés par plusieurs pièces avec des emballages recyclés ou recyclables.
Food procurement in Meylan

<table>
<thead>
<tr>
<th>DISTRIBUTION AUTOMATIQUE</th>
<th>DENRÉES ALIMENTAIRES / PRESTATION DE SERVICE RESTAURATION</th>
<th>PRESTATION TRAITEUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>objet du marché</td>
<td>Installation de distributeurs automatiques de boissons non alcoolisées et d’aliments d’appoint</td>
<td>Fourniture de repas aux restaurants scolaires</td>
</tr>
<tr>
<td>caractéristiques du marché</td>
<td>Toutes les machines sont approvisionnées avec un café issu du commerce équitable et labellisé comme tel</td>
<td>1 produit équitable par mois et 1 produit laitier biologique et 1 pain biologique par semaine</td>
</tr>
<tr>
<td>porteur du projet</td>
<td>Ville de Grenoble</td>
<td>Commune de Meylan 38240 MEYLAN <a href="mailto:c.curien@meylan.fr">c.curien@meylan.fr</a></td>
</tr>
<tr>
<td>date du marché</td>
<td>2004</td>
<td>2008</td>
</tr>
<tr>
<td>bilan de l'expérience</td>
<td>Quelques réticences, qui se manifestèrent sur les supports de communication (affiches, autocollants) durant être surmontées par un travail de sensibilisation des agents</td>
<td>Renouvellement du marché, en cours de procédure : les fournisseurs répondent avec de 100% des produits régionaux, locaux, issus de fermes « bio » ou de la distribution Max Havelaar</td>
</tr>
<tr>
<td>documents annexes (à télécharger) sur le site:</td>
<td>CCP</td>
<td>CCT</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.deltomealpescare.org">www.deltomealpescare.org</a></td>
<td>RCP</td>
</tr>
</tbody>
</table>
A circular economy is restorative and regenerative by design, and aims to keep products, components, and materials at their highest utility and value at all times.

Re-design the way our economy works - designing products that can be 'made to be made again' and powering the system with renewable energy.

**A STEP FURTHER:CIRCULAR ECONOMY**
Circular economy

https://www.ellenmacarthurfoundation.org/circular-economy/overview/concept

La RATP a lancé fin 2014, dans le cadre du renouvellement de la tenue des agents d’exploitation, un dispositif de collecte et de recyclage des anciennes tenues. Cet exemple de commande publique responsable, mis en place sur la période 2014 – 2016, concerne 27 000 agents. La logistique de collecte est assurée par la RATP, et la valorisation par Le Relais (Emmaüs France). Chaque article est orienté dans une filière de valorisation selon sa composition pour être transformé en chiffons, en bobines de fil recyclé, ou pour être effiloché et utilisé comme isolants, ou encore orienté en réemploi pour les articles ne portant pas de logo. À ce jour, 8,3 tonnes de vêtements ont déjà été collectées.
Cette initiative participe activement à l’émergence d’une filière de recyclage des vêtements de travail en France (dont la présence de logos impose des contraintes sur les filières par rapport aux vêtements personnels).

Actionner le levier de la commande publique

1.1 Introduire et donner du poids aux clauses d’économie circulaire dans les marchés publics

Seuls 6,7 % des marchés publics passés en 2013 comportent une clause environnementale (pour les marchés de 90 000 € HT et plus)3. Les clauses environnementales existantes sont généralement perçues comme complexes, et il n’y a pas, à l’heure actuelle, d’indicateurs objectifs précis pour des clauses propres à l’économie circulaire. Le Grand Paris, en lien avec différents partenaires (ADEME, ARENE, Groupe des acheteurs publics responsables, etc.), pourrait développer des clauses incitatives et valoriser les projets qui les auront intégrées. Seraient considérés dans ces clauses à la fois des aspects amont (écoconception, phase d’utilisation des produits) et des aspects aval (réemploi, fin de vie des produits).

1.2 Augmenter la part des produits éco-conçus dans les achats publics


1.3 Développer une logique d’économie de la fonctionnalité dans les marchés publics

Au moment de rédiger un cahier des charges dans le cadre d’appel d’offres, les acheteurs publics pourraient davantage s’interroger sur leur besoin réel et le résultat qu’ils souhaitent atteindre : la logique d’achat de service pourrait ainsi se substituer à celle d’acquisition de biens (on passerait du bien vendu au service rendu). Les entreprises sont concernées, au même titre, par ce changement de pratique. Elles sont aussi appelées à développer des offres plus globales, qui proposeraient un service plutôt qu’un bien, ou à minimiser le réemploi d’un bien en fin de vie. Une telle approche d’analyse de cycle de vie permettrait de réduire l’impact environnemental des prestations offertes (à résultat identique), tout en préservant dans bien des cas l’emploi local.

L’impact budgétaire pour les collectivités serait à apprécier au cas par cas, en comparant les dépenses d’investissement et de fonctionnement. Et pour avancer dans la voie d’une économie de fonctionnalité, la formation des prescripteurs semble un préalable nécessaire, de même qu’un soutien juridique vis-à-vis du droit des marchés publics et de la concurrence pour les acteurs publics. S’appuyer sur un “Club des acheteurs responsables” enclencherait une dynamique et permettrait éventuellement de développer des commandes groupées pour faire émerger de nouvelles filières.

1.4 Inciter à l’écoconception des produits

L’écoconception n’est aujourd’hui un réflexe ni pour les producteurs, ni pour les consommateurs. La fabrication de produits respectueux de l’environnement tout au long de leur cycle de vie suppose des investissements, que les entreprises ont tendance à reporter sur les consommateurs, pour des produits plutôt haut de gamme, voire de niche. Pour aller dans le sens d’une prise en compte d’un coût global des produits (intégrant leur production, leur utilisation, leur élimination, ainsi que leurs externalités environnementales et sociales), les incitations à l’écoconception pourraient prendre en pratique les formes suivantes :

- Pour inciter les producteurs à fabriquer des produits éco-conçus, on pourrait réfléchir à un crédit d’impôt (type crédit d’impôt recherche) ou, dans le cadre des filières REP uniquement, à poursuivre les efforts dans le sens d’une modulation du barème de l’éco-contribution (incitation à fabriquer des produits recyclables par exemple) ;

- Pour inciter les consommateurs à acheter des produits éco-conçus, plusieurs pistes sont envisageables (relance de l’étiquetage environnemental des produits, crédit d’impôt “achat vert” ou prêt à taux zéro pour les biens les plus coûteux, TVA réduite, taxe carbone, etc.).
Amsterdam: « the city circle scan » (2016)

• The report identifies two key material chains (organic residuals and construction materials) in which the circular economy would lead to the most substantial impacts in terms of carbon reduction, material savings, job creation and economic growth.
Alignment of contract type and project
What are the determinant of GPP?
Cost effectiveness?

ECONOMIC ANALYSIS OF GPP
GPP from an economic perspective

GPP = Public Procurement + « Green touch »

• Compared to « non green » PP, is it more costly? more complex? more risky? more demanding? more efficient? more popular? More ….. Or less?

Is GPP efficient?
- As an environmental policy instrument?
- Is it a cost-efficient instrument?
- What about greenwashing?
GPP from a contract economics perspective

- A couple Green Project/contract
  - A wide diversity of projects (Objects, Complexity, Public buyer/private operators, relevant market…)
  - A wide diversity of contractual forms
  
  ➕ Which contract for which project?
  ➕ What are the determinants of the contractual choice for GPP projects?
  ➕ Sources and conditions of efficiency for each contractual form?
Specificities and diversity of Green PPP

- Greenfield (from scratch) vs. brownfield (renewal/refurbishment)
  - Easier to start from scratch than greening existing building/services Ex: low-energy-building (BBC)/energy-plus house vs. EPC (energy performance contracting, EU Directive 2006/32/EC)

- Green PPP can be seen an alternative to other modes of financing (subventions, tax policies)

- Great diversity of GPP. Ex:
  - EPC
  - Purchasing green power
Comparison btw GPPP and PPP

• Relatively urgent (international commitments)
• Complex projects (difficult to specified ex ante) and innovative
  • Limited experience with and evidence on green PPPs to properly guide optimal concession designs increases the level of uncertainty in the processes of project design, implementation, financing, and operation and maintenance
• Higher uncertainty (innovation, output)
• Reduced competition (higher cost)
• Higher risks
  • New technologies are less likely to be accepted to project developers or financial investors, since they are more vulnerable to various risks of technology failures.
• Performance objectives are problematic because hardly contractualizable (performance difficult to measure) + contractitory to remuneration scheme (ex. concession contract)
Key for success for GPP and green projects

1. **Build a real long term partnership based on co-operation, expertise and credible commitment**
   
   - Unlike traditional procurements for assets or services, which use shorter-term contracts to acquire or renovate public assets, a green PPP is a global contract, which may last for 15 to sometimes more than 90 years. Establishing a real partnership is essential and requires a different approach than shorter contracts. Especially for complex green PPPs, the public body must also acquire internal knowledge and expertise necessary to define the terms of the agreement.

2. **Incentivize innovation through competition among operators during (competitive dialogue) Efforts to define, specify and measures performances**

3. **Trade-off between rigidity and flexibility of the contract**
   
   - The more a contract is complete (rigid), the more likely costly renegotiations can be avoided. PPPs may sometimes be too rigid in the context of technological evolution: if PPPs cannot easily incorporate technological innovation during the life of the contract, they lose their comparative advantage to internal public solutions and traditional procurement.
   - and in a complex and uncertain environment, contracts need flexibility rather than rigidity: the more the contract is incomplete, the more it is flexible and adaptable to unanticipated contingencies and open to incorporating new incentives for cooperative behaviour.
   - Still, it does not protect against opportunistic behaviours from the public body or the private partner. ⇒ PPPs may not always be a good candidate for green projects with strong technological components.

Very costly !!!
• Urban green PPPs might face challenges if their objectives result in decreased consumption incompatible with concession contracts, in which the gains of the private operator is positively linked to the level of consumption?

• Ex: water concession: when private operators’ payment is based on the amount of water consumed, conserving natural resources (i.e. reducing the quantity of distributed water) conflicts with increasing earnings
GPP and water concession

The private sector provides water services to 75% of the population in France. France is one of the three countries worldwide (other two being Chile and the United Kingdom) with the highest share of private sector provision in this sector. The French debate about water concession contracts; the re-municipalisation of water services (e.g. in Paris) is largely connected to the misalignment of contractual tools. Some municipalities would like to focus on reaching environmental targets, like reduced water losses, improved resource protection and reduced consumption. However, the contracts that allow municipalities to partner with private operators through a global contract are concession or lease contracts, both of which base payment to operators on the volume of water consumed. This clearly contradicts the willingness to achieve water consumption reductions. A new paradigm is therefore necessary, and there are many options. Concession and lease contracts could be replaced with PFIs, in which operators are paid through their capacity to reach quality targets (e.g. volume reduction of water consumption). Mixed payments provide another alternative: consumers pay for water services, while citizens’ taxes cover costs of other services that benefit the whole society (e.g. resource protection, leakage reduction). Thus, a continuum of PPPs is possible, with a mix of features of concessions and PFIs.

EX 1: EPC
Energy performance contracting

- EU Directive 2006/32/EC: “a contractual arrangement between the beneficiary and the provider (usually an Energy Service Company - ESCO) of an energy efficiency improvement measure, where investments in that measure are paid for in relation to a contractually agreed level of energy efficiency improvement‖. The objective of EPC is not the execution of works (supply of goods or services), but the improvement of energy efficiency (i.e. reduction of energy consumption)”
EPC: principle
• An innovative approach to contract design raising specific issues related to performance measures and verifiability under the context of legal and technological uncertainty.
  – The use of a performance-oriented contract is only possible when energy efficiency is perfectly measurable, with observable and verifiable indicators. Depending on the sector and the objectives of a given project, such measure may be difficult to establish and contest.
  – The more difficult the control, the more likely ex post conflicts concerning efficiency targets, observed performances and responsibilities will occur.

⇒ These conflicts are costly and may affect the efficiency of EPC.
Contractual features of a EPC

Despite the definition given by the EU Directive 2006/32/EC, the definition and implementation conditions of energy performance contracting (EPC) vary in different countries. This affects how EPC is marketed (i.e. high or low market visibility) as well as the cost and quality of services provided by suppliers. Still, there are common features of EPC:

- **EPC is objective-oriented**, in that a private contractor's revenue under EPC depends at least partly on energy savings that have been achieved. The cost of investment (in air conditioning systems, energy management control systems, efficient lighting, peak load management, thermal insulation as well as campaigns to make users sensitive to energy savings) is paid back from the energy savings. If the Energy Services Company (ESCO) fails to achieve the estimated energy savings, they must cover the difference between the invested cost and the realised savings. In addition, to ensure that the building is used in the most efficient way, building occupants receive training on energy efficiency practices. Since EPC is a performance contract, rigorous procedures for assessment and verification performance have to be implemented by ESCOs. EPC is thus an incentive contract that should improve energy efficiency.

- **EPC is a global contract**, for which the ESCO designs, realises, exploits, and maintains energy-saving equipment, supporting most of the performance risks.

- **EPC is a long-term contractual agreement**, through which the customers should benefit from new or upgraded energy equipment along the life of the contract.

A global and long term contract

conception  work  exploitation  maintenance
Different types of EPC

« fourniture et service »
- Objectives: 10-20% energy savings
- Garantie complète d'économie d'énergie
- Faible niveau d'investissement
- Durée faible (3-10 ans)
- Auto-financement des économies d'énergie

« travaux et service »
- Objectives: 20-40% energy savings
- Works on the building (sealing and insulation, windows)
- High amount of investment with long amortization (increase the value of the building)
- Long duration (>15 years)

« Global »: travaux, fourniture, service ~ conception, réalisation, exploitation et maintenance (+ utilisation)
- Objectives ~ 40% energy savings
- Important work on building
- Long duration >> 15 years
EPC in France – first assessment

- 245 identified EPC (86% public explained by the selection mode (BOAMP, lack of systematic private information))
Figure 1 : Répartition du nombre de CPE par secteur (242 CPE)
Figure 2 : Répartition du nombre de CPE par durée d’engagement selon la nature juridique du marché (231 CPE)

Figure 3 : Nombre de CPE par type de marché selon le type de procédure de passation du contrat - hors contrats privés (196 CPE)
Figure 4 : Evolution du nombre de CPE par type d’investissements engagés (229 CPE)
Figure 5 : Objectifs contractuels moyens d'économie d'énergie selon la nature des investissements engagés (167 CPE)

EX 2: PURCHASING GREEN POWER
Context

• A way to include Sustainable Development in the energy market

Electricité
86% des sites non résidentiels étaient encore aux TRV au 31 décembre 2013

Gaz
50% des sites non résidentiels étaient aux TRV au 31 décembre 2013
What is green electricity?

Purchasing green power

  - Il existe deux types d’offres d’électricité verte :
  - Celles qui reposent sur les garanties d’origine. Le fournisseur en achète à hauteur de la consommation de ses clients en offre renouvelable. Dans la quasi-totalité des cas, ces garanties-là sont associées à l’électricité d’origine hydraulique produite par les centrales hydroélectriques des grands barrages depuis plusieurs décennies, à un coût aujourd’hui très compétitif. C’est d’ailleurs une électricité qui fait partie du mix électrique d’EDF, elle est injectée sur le réseau et acheminée jusqu’à nos compteurs depuis longtemps !
  - Celles qui soutiennent les producteurs d’énergie renouvelable. Enercoop est le fournisseur d’électricité le plus impliqué dans cette démarche et le pionnier. Des petits nouveaux sur le marché de l’électricité contractualisent également directement avec des producteurs, c’est le cas d’Ilek et d’Énergie d’ici.
How to be sure to buy green power?

• EU criteria:

• Labels: NATUREMADE (CH), TÜV SÜD (D), EKOénergie
Economic literature

- Problem: lack of systematic data
- Best practices and case studies of practical implementations of GPP in specific contexts or sectors
- Bias in favor or « obligation of means » evaluation vs. « performance obligation » evaluation
  - potential gains in absolute terms:
    - What impact on specific products, firms’ costs, innovation and competitive performance?
  - welfare point of view:
    - comparing GPP to alternative environmental policy instruments (taxes, subsidies and tradable permits): cost-effectiveness perspective
    - Cost benefits analysis
- Contract economics to analyse the choice between alternative contractual forms for green projects ⇔ economic analysis of promises and pitfalls of each contractual forms
GPP in terms of « obligation of means »

• Bouwer et al. (2006) (European survey – 860 responses)
  – Identification of the barriers to GPP
    • Additional costs of green products
    • Public buyers’ lack of knowledge/ expertise
    • Lack of management support, practical tools, training….
  – Products groups most « greenable »:
    • construction work, transport, cleaning, clothing, electricity, IT devices, food, paper, furniture…
  – Identify the « 7 green »: Austria, Denmark, Finland, Germany, Great Britain, Holland and Sweden
GPP in terms of « obligation of means »

- Studies provide evidences and indications to practitioners and policy makers for implementing effective GPP, but no generalization.

- Non conclusive results, strongly context dependent (country, sector, public buyers).
GPP in terms of « obligation of means »

• Renda et al. (2012) (European survey – 856 responses/ 26 MS/ 230 000 contracts /2009-10)
  – Only 26 % of the contracts included all core EU GPP criteria but 55% included at least one and always more as time passes → GPP is a reality, optimism
  – Top performers (all GPP core criteria applied: BE, DK, NL, SE): 40-60% of the cases → the tree that hide the forest?
Figure 1. Proportion of public authorities including environmental criteria for more than 50% of their purchases.

Thomson, Jackson 2011
Analysis

What factors influence the uptake of GPP (green public procurement) practices? New evidence from an Italian survey

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Environment

ABSTRACT

Green public procurement (GPP) is becoming a cornerstone of environmental policies both at European Union and Member State levels. Drawing upon a database of public authorities located in three Italian regions, this paper assesses the determinants and drawbacks of green procurement adoption. In particular, using an econometrical approach we tested the following propositions: (i) the existing awareness on GPP practices, tools and regulations does support public authorities to develop GPP strategies; (ii) the support of external experts in purchasing function does support public authorities to develop GPP practices; (iii) the small dimension of public authority is an obstacle to adopting GPP practices; (iv) ISO 14001 certified public authorities are more likely to develop GPP practices. The econometric analysis shows that the dimension of public authorities and the level of awareness of the existing tools for supporting GPP have a positive and significant effect on the probability that they adopt GPP practices.

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1. Introduction

Green public procurement (GPP) is becoming a cornerstone of environmental policies both at European Union and Member State level (Tukker et al., 2008). Since the International Conference on Environment and Development at Rio de Janeiro in 1992, the awareness on the role of GPP in supporting sustainable consumption and produc-
GPP in terms of environmental performances’ obligation

• Lundberg and Marklund (2011, 2012)
  + More politically acceptable tool that taxes
  + GPP is borderless in the context of internal market unlike taxes
  – GPP is not a cost-efficient environmental instrument compared to taxes because of imperfect information
  – limited ability to create incentives for firms to invest in environmentally friendly production technology (transformation policy)
  – increases complexity and reduces transparency → reduces competition (unless firms are homogeneous or tenders and scoring rule « technic neutral ») → diminishes potential gains of GPP
• Research question: what are the factors that influence the inclusion of green criteria in award procedure?
• Methodology: econometric regression
• Data: qualitatives (survey to 156 public buyers in 3 Italian regions)
• Probit to (probability to ...)
• Explained variable: choose a GPP
• Explanatory variables:
  • GPP awareness
  • Size of PB
  • Adoption of an environmental certification EMS (Environmental Management System)
  • Use of external expertise to assist PB
Proposition 1. The awareness on GPP toolkit and regulations does support public authorities to develop GPP practices.

Additionally to these guidance tools, public authorities can fill the gap in internal competences and know-how also by asking for support from external experts on green public procurement. This leads us to our second proposition.

Proposition 2. The support of external experts in purchasing function does support public authorities to develop GPP practices.

The lack of internal know-how, as well as the presence of other significant barriers to the development of GPP practices, is often linked to the small size of organizations that, being characterized by a structural lack of resources, are not able to develop internal competence on how to include green criteria in the public tenders. Confirmations on these assumptions are provided, also, by recent studies applying to GPP issues statistical methods such as correlation tests. Using data collected by a standard questionnaire from 111 public authorities in Norway, Michelsen and de Boer (2009) found clear correlation between the size of municipalities and the focus on green procurement. The size of a municipality is also correlated with several other aspects, such as the existence of a purchasing department and a purchasing strategy. This evidence is circumscribed to Nordic countries and verified by a simple correlation analysis. We aim to test it also in the Italian context using a regression analysis. This leads us to our third proposition.

Proposition 3. The small dimension of public authority is an obstacle to adoption of GPP practices.

Proposition 4. ISO 14001 certified public authorities are more likely to develop GPP practices.
### Table 2
Sample's details.

<table>
<thead>
<tr>
<th>Region</th>
<th>Public authority</th>
<th>Number</th>
<th>No. of public authorities in the region</th>
<th>%</th>
<th>Population</th>
<th>Regional population</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emilia Romagna</td>
<td>Municipality</td>
<td>46</td>
<td>348</td>
<td>13.2</td>
<td>1,581,432</td>
<td>4395.569</td>
<td>36</td>
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<td></td>
<td>Province</td>
<td>7</td>
<td>9</td>
<td>77.8</td>
<td>3,018,210</td>
<td>68.7</td>
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<tr>
<td>Lazio</td>
<td>Municipality</td>
<td>36</td>
<td>378</td>
<td>9.52</td>
<td>3,400,238</td>
<td>5681.868</td>
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<tr>
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<td>5</td>
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<td>Liguria</td>
<td>Municipality</td>
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<td>235</td>
<td>20.4</td>
<td>208.829</td>
<td>1615.986</td>
<td>3.67</td>
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<tr>
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<td>Province</td>
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<td>4</td>
<td>50</td>
<td>510.921</td>
<td>31.62</td>
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### Table 4
Descriptive statistics.

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<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPP</td>
<td>0.426</td>
<td>0.486</td>
<td>0</td>
<td>1</td>
<td>143</td>
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<tr>
<td>GPP—green tender</td>
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<td>1.590</td>
<td>0</td>
<td>11</td>
<td>143</td>
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<tr>
<td>Awareness</td>
<td>2.566</td>
<td>1.684</td>
<td>0</td>
<td>6</td>
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</tr>
<tr>
<td>Population</td>
<td>1.986</td>
<td>0.813</td>
<td>1</td>
<td>3</td>
<td>143</td>
</tr>
<tr>
<td>ISO 14001</td>
<td>0.356</td>
<td>0.480</td>
<td>0</td>
<td>1</td>
<td>143</td>
</tr>
<tr>
<td>External assistance</td>
<td>0.440</td>
<td>1.208</td>
<td>0</td>
<td>7</td>
<td>143</td>
</tr>
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</table>
Results

1. Information on GPP, expertise and know-how of PB positively impact the inclusion of green criteria
   ⇨ Policy recommendation: guides, support PB, training etc….
2. Larger PB (size pop) are more greening PP because of economies of scale and scope in the tender process
3. Possibility to have external assistance increases the probability to buy green
4. PB in Lazio (center) are less likely to include green criteria than PB in Emilia Romagna region (north)

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Results of regression measuring the determinant of GPP.</th>
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</thead>
<tbody>
<tr>
<td>GPP</td>
<td></td>
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<tr>
<td></td>
<td>(1)</td>
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<td></td>
<td>Coefficient</td>
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<td>GPP awareness</td>
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<tr>
<td>Population</td>
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<tr>
<td>ISO 14001</td>
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<tr>
<td>External assistance</td>
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<td>Lazio region</td>
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<td>Liguria region</td>
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<td>Constant</td>
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<td>No. of observations</td>
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<td>LR chi²</td>
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<td>Pseudo R-square</td>
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