Chapter 1

Public procurement for innovation: An overview

This chapter provides the general background for, and overview of, Public Procurement for Innovation: Good Practices and Strategies. This includes a definition of procurement for innovation for the purposes of this report, an introduction to the methodology behind the findings, and an overview of the findings from the underlying OECD Survey on Strategic Procurement for Innovation 2015.

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Public procurement represented 12% of gross domestic product (GDP) and 29% of total government expenditures on average across OECD countries (OECD, 2015a). In the European Union, it accounts for approximately 14% of GDP (European Commission, 2016). These figures illustrate the large budget size of public procurement and its significance for the economy as a whole and also indicate how the public sector can support policy objectives through public procurement.

In the field of innovation policies, governments have traditionally directed their efforts towards the supply side, ensuring that the private sector operates in an environment conducive to innovation. In recent years, however, the role of “demand-side policies” to support innovation has gained in prominence and has been receiving growing interest from many countries. Governments recognise that innovations materialise when there is a demand for innovation. Therefore, effective policies to support innovation have to focus on both supply and demand conditions (OECD, 2011).

Among demand-side innovation policies, such as innovation-friendly regulations or lead market initiatives, public procurement is increasingly recognised as a potential strategic instrument and a policy lever for achieving government policy goals, such as innovation, the development of small and medium-sized enterprises (SMEs), sustainable green growth and social objectives like public health and greater inclusiveness. All of these goals are in line with the aims specified in the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (OECD, 2016).

Public procurement for innovation has the potential to improve productivity and inclusiveness, if used strategically as targeted, demand-side innovation policies to meet societal needs. For example, it can anticipate future investments to address existing or future societal challenges; or it may allow potential vendors to enter the market with new, innovative goods or services, thus encouraging innovative solutions to pressing challenges.

The strategic use of public procurement to boost innovation is closely connected to a government’s power to shape and create market conditions. In fact, given the size of public procurement, governments, among other actors, can influence demand on national or sub-national levels. Combining this influence with sectoral strategies can be useful to achieve targets in the above-mentioned critical areas.

As a result, the role of the purchaser in the public sector is changing to include more elements of active risk and benefit management. In the same way, to reap the benefits of procurement for innovation, the envisioned policy changes have to be well planned. Enhancing the implementation of strategic use of procurement for innovation requires strong political commitment, strategic management, capabilities to manage new organisational processes (Valovirta, 2015; Ongaro, 2015) and new ways of working across all levels of government (OECD, 2015b).

If governments want to address today’s economic and societal challenges effectively, they need to demonstrate their capacity to deliver across all stages of the policy cycle with well-coordinated institutions and efficient alignment between long-term visions and short-term actions, and between budgetary decisions and regulatory instruments (OECD, 2015c). Moreover, they need to balance different policies and instruments productively. Part of governments’ new role is also to facilitate interactions and collaborations between different actors. The flow of experiences, knowledge and skills is a prerequisite for innovation. This will demonstrate quality governance worthy of citizens’ and suppliers’ trust and engagement, while delivering innovative solutions for servicing the public.
The strategic use of public procurement to encourage innovation and tackle challenges works equally on national and sub-national levels. Across OECD countries, the near 134 000 sub-national governments are responsible for around 63% of public procurement, 59% of public investment and 40% of total government expenditure, as measured for the last OECD Public Governance Ministerial Meeting in Helsinki, Finland (OECD, 2015d). However, fragmentation of public demand on local regional and national levels can limit the pull of demand as responsibilities and co-operation between governments and agencies responsible for public procurement are often not co-ordinated with agencies and ministries in charge of innovation policies.

The OECD Recommendation of the Council on Public Procurement (OECD, 2015e) (hereafter referred to as the “OECD Recommendation”) is a major step in substantiating the goal of strategic use of public procurement, including innovation. The recommendation develops the concept of balanced use of secondary policy objectives against primary procurement objectives (delivering goods and services necessary to accomplish government missions in a timely, economical and efficient manner). Box 1.1 details this principle as developed in the OECD Recommendation.

Following this, balanced does not necessarily refer to rank rather more as caveat, to understand the implications of policy choices and the need to consider what the prioritised objectives for the specific procurement process are. As an example, one of the principles in the EU procurement directives is to ensure that in the performance of public contracts economic operators comply with applicable obligations in the fields of environmental, social and labour law established by Union law, national law, collective agreements or by international environmental, social and labour law provisions.

### Box 1.1. OECD Recommendation on Public Procurement: The principle of “Balance”

“V. RECOMMENDS that Adherents recognise that any use of the public procurement system to pursue secondary policy objectives should be balanced against the primary procurement objective.

To this end, Adherents should:

i) Evaluate the use of public procurement as one method of pursuing secondary policy objectives in accordance with clear national priorities, balancing the potential benefits against the need to achieve value for money. Both the capacity of the procurement workforce to support secondary policy objectives and the burden associated with monitoring progress in promoting such objectives should be considered.

ii) Develop an appropriate strategy for the integration of secondary policy objectives in public procurement systems. For secondary policy objectives that will be supported by public procurement, appropriate planning, baseline analysis, risk assessment and target outcomes should be established as the basis for the development of action plans or guidelines for implementation.
Defining strategic use of public procurement for innovation

For the purposes of this report, the strategic use of public procurement for innovation is defined as any kind of public procurement practice (pre-commercial or commercial) that is intended to stimulate innovation through research and development and the market uptake of innovative products and services. This definition follows the approach of the European Research Area and Innovation Committee (European Council, 2015).

Throughout literature, different expressions, sometimes with diverging scope, e.g. excluding pre-commercial procurement (Edquist et al., 2015; Edquist and Zabala-Iturriagagoitia, 2012), cover what this report labels as “strategic use of public procurement for innovation”.

Concerning the modernisation of the procurement process, this report includes only procurement for innovation related aspects (e.g. risk management, life-cycle cost and e-procurement) and focusses mainly on the procurement of research and development, or procurement of an innovative product.

Background and methodology

This report is based on responses to the OECD Survey on Strategic Procurement for innovation 2015, (hereafter referred to as the “OECD Survey”), which was carried out at the end of 2015 (see Annex C). The work originates from the call of the OECD Working Group of the Leading Practitioners in Public Procurement (LPP) in April 2015 to design a report on Strategic Procurement for innovation, gathering evidence on the state of play, collecting innovation good practices and providing further guidance on the strategic use of public procurement. The OECD Survey is a contribution of the Public Governance Committee to the OECD Inclusive Growth Strategy, the OECD Innovation Strategy and the OECD Green Growth Strategy. It is endorsed by the LPP Working Group and the ERAC Secretariat.
The OECD Survey was structured into two parts and sent to LPP Delegates in OECD countries, ERAC Delegates in the EU member states, as well as to OECD accession/partnership and associated countries and economies. Answers were provided by the LPP and ERAC Delegates as a consolidated response (one consolidated answer per country).

Part I of the OECD Survey was policy oriented and based on the first six questions of the ERAC Questionnaire on Procurement for innovation 2014 (ERAC, 2015), with a focus on the strategic dimension, implementation and impact at the national level. This part was developed in collaboration with the ERAC Secretariat.

Part II was based on the OECD Observatory Public Sector Innovation Survey (OPSI) (OECD, 2015f), with the purpose of collecting good practice cases on strategic procurement for innovation in national and sub-national contexts, to be published on the OPSI platform.

Overview of the responses to the OECD Survey on Strategic Procurement for innovation 2015

In total, 35 OECD member countries participated in the OECD Survey and 80% (28 OECD member countries) responded: Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States. In addition, the following seven OECD non-member countries participated: Colombia, Cyprus, Lithuania, Malta, Russian Federation, Serbia and Thailand.

Of the 35 responding countries, 34 provided information on the state of play of policy strategies. Of the total responding countries, 30 (88%) provided good practice cases of procurement for innovation, and 23 (68%) released them for publication (see Tables 1.1 and 1.2). The good practice cases are presented throughout this report in boxes as “spotlights”.

The OECD Survey took stock of definitions of public procurement for innovation that countries use for policy purposes. Scope and definitions for procurement for innovation policies in countries vary. European Union countries were obliged to transpose the new 2014 EU Public Procurement Directives (European Commission, 2014) into national law, which covers opportunities related to procurement for innovation, e.g. the innovation partnership, the exemption on Pre-Commercial Procurement (PCP) and facilitating Public Procurement of Innovative solutions (PPI).

Some countries, including Ireland, the Netherlands and the United Kingdom, also pursue a modified model of the Small Business Innovation Research program used in the United States (“SBIR type”) (SBIR, 2016). This programme promotes the participation of small businesses in federal research and development opportunities. The multiplicity of definitions is reflected in the survey responses where nine of the responding countries have developed their own definitions; six countries have no definitions and one country follows the rules in line with the World Bank Procurement Guidelines.

While the policy-related questions were answered throughout by national organisations, the good practices cases were provided by different public institutions on national, regional and local levels, including Central Purchasing Bodies (CPBs), agencies in charge of public procurement, ministries, and other entities tasked with promoting
businesses or innovation. Overall, 87% of these respondents are situated at the national level; 10% at sub-national and 3% at the local level. Figure 1.1 presents the main sectors of the organisations that submitted good practice cases. Most good practices came from organisations in charge of general public services, a category that includes functions related to overall governance, co-ordination between different levels, foreign affairs, and general research capabilities. The second major category represents organisations in charge of economic affairs, followed by health- and education-related institutions.

Figure 1.1. Sectors of the organisations providing examples of good practices

Note: Countries could provide multiple responses; \( n \) = numbers of responses provided.


The most relevant areas mentioned in the good practice cases are presented in Chapter 2: how procurement for innovation was triggered, how partners supported the process, and in terms of impact assessment, what the expectations and results of the innovative practice were.

The good practice cases fall broadly into one of two categories: 1) projects; and 2) programmes or initiatives (see Tables 1.1 and 1.2). Countries were asked to describe their submission with up to five keywords to capture the key elements of the innovation.
### Table 1.1. Good example of practices of strategic procurement for innovation

<table>
<thead>
<tr>
<th>Country</th>
<th>Project</th>
<th>Subject</th>
<th>Keywords chosen by countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria¹</td>
<td>Full range (socially) sustainable food package with dynamic allergen indication</td>
<td>Food database</td>
<td>Food; Multi-quality-strategy; Dynamic allergen information tool</td>
</tr>
<tr>
<td></td>
<td>MOVEBAG and MOVEBEST - Mobile traffic management system for roadworks and major incidents</td>
<td>Traffic management</td>
<td>Mobile traffic management; Mobile traffic detection</td>
</tr>
<tr>
<td>Belgium²</td>
<td>Smart@Fire - Smart Personal Protective Systems for fire fighters (Region of Flanders)</td>
<td>Smart Personal Protective System</td>
<td>ICT - Localisation systems; Intelligent personnel protective systems; Integrated systems</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>Archive management for State Archives - in line with the BETA programme</td>
<td>Software module</td>
<td>Archive services; Archive process; Hard-copy documents; Safe communication; Document deposition place management</td>
</tr>
<tr>
<td>Finland</td>
<td>iLOQ - Energy-efficient locks (Oulu, Jyväskylä and Kuopio Regions)</td>
<td>Digital locks</td>
<td>Digital locks; Energy-efficient locks; Locking system; Energy-efficiency; Digitalisation</td>
</tr>
<tr>
<td>France</td>
<td>Liquid LEDs (bulb for public lighting)</td>
<td>Liquid LED technology</td>
<td>Total cost of ownership; Energy savings; More functionalities (video monitoring); Efficiency; Quality</td>
</tr>
<tr>
<td>Germany</td>
<td>THALEA - Improve care for acutely life-threatened patients by teledicine and telemonitoring (Region of North-Rhine Westphalia)</td>
<td>Telemedicine</td>
<td>Telemedicine; Interoperability of Patient Data Management; Systems Decision-support; Closing innovation gap; Sharing expertise</td>
</tr>
<tr>
<td>Hungary³</td>
<td>Smart@Fire - Smart Personal Protective Systems for fire fighters (Észak-Alföld Region)</td>
<td>Smart Personal Protective System</td>
<td>PPS; PPE; firefighter gear; ICT; PCP</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Robotic Bed-washing Facility in Hospitals (Erasmus Medical Centre, Erasmus University Rotterdam)</td>
<td>Robotic</td>
<td>Clean hospital beds; Lower total costs of ownership; Lower energy costs; Less detergents; CO2 reduction</td>
</tr>
<tr>
<td>Norway</td>
<td>Omsorg + Kampen - Smart house platform for senior housing residence (City of Oslo)</td>
<td>Technology for elderly people</td>
<td>Increased efficiency through user-driven integration of welfare technology</td>
</tr>
<tr>
<td>Poland</td>
<td>Hybrid lighting in the Jarosław commune (City of Jarosław)</td>
<td>Lighting</td>
<td>Safety; Clean energy; Environmental protection</td>
</tr>
<tr>
<td>Sweden</td>
<td>Electrified Roads - knowledge base for industrial, academic and political decisions</td>
<td>Heavy traffic</td>
<td>Electrified roads; Heavy traffic; PCP; Triple-helix co-operation; Environment</td>
</tr>
</tbody>
</table>

**Notes:** All good practice projects presented above have been released to be published.

1. Austria submitted two released good practice cases.
2. Belgium provided a good practice case on Smart Personal Protective System, same case provided by Hungary.
3. Hungary provided a good practice case on Smart Personal Protective System, same case provided by Belgium.

These projects have different approaches - set up as European joint cross-border projects or on national and sub-national levels; seven of these projects are managed on regional or local levels. This presentation of good practice examples underlines the fact that most innovative projects are related to new information and communication technologies.

Table 1.2 provides an overview of programmes or initiatives presented as good practice cases. These programmes were implemented on national level and aim to achieve a range of objectives, such as energy efficiency and smarter use of information and communication technology.

Table 1.2. Programmes or initiatives submitted as good practice examples of strategic procurement for innovation

<table>
<thead>
<tr>
<th>Country</th>
<th>Programme/initiative</th>
<th>Keywords chosen by countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>The Build in Canada Innovation Program (BCIP) contracts to entrepreneurs with pre-commercial innovations</td>
<td>Innovative; Competitive; Engagement; Supply(technology)-push; Collaboration</td>
</tr>
<tr>
<td>Chile</td>
<td>Workshop to Improve Regional Public Procurement (Public procurement management of municipalities)</td>
<td>Problem definition; Listen to the user's opinions; Multidisciplinary work</td>
</tr>
<tr>
<td>Colombia</td>
<td>The National Development Plan institutes procurement for innovation as a cross-cutting public policy</td>
<td>MinTic: Lab; Test-scenarios; Cybersecurity; Information; IT-management; ANSPE: Poverty; Education; Technology; Income; Social-innovation; EPM: Water-loss; Leak; Costs; Consumer; Innovation</td>
</tr>
<tr>
<td>Ireland</td>
<td>Small Business Innovation Research (SBIR) - Electric Vehicle Smart Charging SME support</td>
<td>Solutions; Efficiencies; Savings; Job creation; Export opportunities</td>
</tr>
<tr>
<td>Italy</td>
<td>Integrated Energy Service Framework Agreement 3</td>
<td>Energy efficiency; Sustainability; Standardisation; Modernisation; Leading by example</td>
</tr>
<tr>
<td>Korea</td>
<td>Excellent Government Supply Products Program, Certification of excellent technology and quality</td>
<td>Technology certification; SME; Framework agreement; Direct online orders; Promotion</td>
</tr>
<tr>
<td>New Zealand</td>
<td>APP4IR Crowd Sourcing for start-ups</td>
<td>Crowd source; Prize; Dragons den</td>
</tr>
<tr>
<td>Russia</td>
<td>Contracts - Suppliers are paid for the final results that they achieved according to clear and measured indicators of the final effects</td>
<td>Faster; Easier; Cheaper; Better results than standard technology; Product, service</td>
</tr>
<tr>
<td>Spain</td>
<td>Public Procurement of Innovation Policy in Spain</td>
<td>Co-finance; Reference; Leverage; Jump and opportunity</td>
</tr>
<tr>
<td>Thailand</td>
<td>Integrity Risk Assessment in Public Procurement in Thailand</td>
<td>Integrity risk mitigation measures; Guideline for mitigating integrity risks; Public procurement in reform; A risk indicator system; Sound and modern public procurement law; Institutional capacity of the office of public procurement management</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>SBRI supports development of long-endurance unmanned vessel for oceanographic research</td>
<td>New technologies; Cheaper; More efficient</td>
</tr>
</tbody>
</table>

Note: All good practice projects presented above have been released to be published.

Framework to promote the strategic use of public procurement for innovation

This report takes stock of the state of play in procurement for innovation. Building on the lessons of the policies and practices, it also provides a framework to help countries implement strategic procurement for innovation in Chapter 3.

The framework is designed as a modular and flexible structure and can be applied in a variety of circumstances and levels of governance at national and sub-national levels and across sectors. The framework illustrates the fundamental requirements of good public governance to integrate the strategic innovative approach in public procurement. It highlights nine areas of action from an integrated perspective to improve co-ordination, governance, management and communication, among other measures required for success.

Notes

1. In 2015, all 34 OECD member countries were involved in the OECD Survey, and 28 of them responded. Since 1 July 2016, OECD has 35 member countries: Latvia deposited its instrument of accession to the OECD Convention on 1 July 2016, thereby becoming a full member of the Organisation. For more information about OECD members and partners, see www.oecd.org/about/membersandpartners.

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3. For good practice cases on the state of play with regard to policy strategies (based on Part I of the OECD Survey), see Annex A with case studies by country in alphabetical order. For the state of play of good practice cases (based on Part II of the OECD Survey), see the “spotlights” boxes throughout this report.
References


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