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2.5 Innovation-friendly public procurement as a new RTI policy tool?

Eva Buchinger

2.5.1 Procurement volumes

Public procurement is an important economic factor, representing nearly one fifth of GDP on average in the EU.²³ Procurement has found a place on the agenda of innovation policy, not least due to the large volumes involved – some € 50 billion annually (Table 13) in Austria alone. Several groups of experts in the EU have addressed this topic in recent years. What they found is an urgent need to use public procurement to advance research and development, given the untapped potential still available here for implementation of the Lisbon Strategy²⁴ (EC 2004 :21; EC 2005 :5; EC 2006a :6). The thinking is that mobilising even a small portion of the procurement volume could achieve significant innovation effects. From an innovation policy perspective, this means utilising idle resources.

Table 13: Estimated volume of public procurement in Austria

	€ millions
Gross domestic product 2008	281,867
thereof 17%*	47,917
Federal spending acc. to budget 2008**	69,869

* Procurement-related percentage according to EU estimate (EC 2007c)

** Includes health and social welfare, public administration, roads/transit, education/instruction, research/science, defence, financing

Sources: (SA 2010), (BMF 2008)

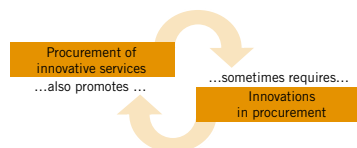
2.5.2 Subject: innovative and innovation-friendly public procurement

Innovative procurement is distinct from innovation-friendly procurement: the former involves innovations in the procurement process, while the latter focuses on the procurement of innovative services (Figure 14). When the procurer purchases something that is new on the market or solicits bids to address problems whose solution requires the development of new goods or services, we speak of innovation-friendly procurement.

A combination of the two forms is natural, since innovation-friendly procurement often requires innovations in the corresponding procurement processes.

Public buyers (procurers) include the federal government, the states and communities, and quasi-governmental institutions (BGBL 2006/17). The latter category encompasses both institutions that have been established to fulfil responsibilities of common interest and are at least partially endowed with legal rights and obligations as well as institutions that are financed largely with public funds or subject to significant government oversight.

Figure 14: Innovative and innovation-friendly procurement



Source: (BMWA 2007: 13)

23 It is estimated that public procurement accounts for an average of 17 % of GDP among EU member states and thus 35 % of public spending (EC 2007c: 4)

24 Especially regarding the so-called Barcelona target for R&D spending of 3 % of GDP (EC 2002).

2.5.3 Legal basis: European and “new” Austrian procurement laws

The Austrian Public Procurement Act (Bundesvergabegesetz, BGBl 2006/17), including its annexes (and the corresponding amendments of 2007 and 2009; BGB 2007/86 and 2010/15), came into effect on 1 February 2006. The law was created primarily to meet the deadline for implementation of the corresponding European guidelines (Public Procurement Directive with sector-specific directive: EU 2004/17; EU 2004/18). What’s new and important about the European Public Procurement Directive of 2004 and Austria’s Public Procurement Act of 2006 from the perspective of innovation policy is that they explicitly cite and define the scope of several key terms that make it possible to design public procurement with a greater focus on innovation. This makes it more likely than before that the bidders/suppliers will be brought into the procurement process. The key points are as follows.

- Choice of procurement procedure:²⁵ It is possible to conduct technical dialogues (“competitive dialogue”) with potential bidders before the actual procurement process, for example, to find out what kind of innovation is even possible.
- Choice of performance specification:²⁶ If the call for bids does not cite the intended solutions but instead names the functional

needs of the procurer, this significantly expands the leeway for creativity on the part of the bidders/suppliers.

- Option of an alternative bid:²⁷ Finally, the procurement can integrate incentives for bids that include additional/alternative innovative (more affordable, more effective or more environmentally friendly) solutions.

Shortly after the laws (EU, Austria) took effect, discussions focused on the competitive dialogue, but attention is now centred around the option of the functional call for bids in combination with the various other possible procurement procedures.

2.5.4 Security: public procurement between risk prevention and innovative tendencies

Despite the more “innovation-friendly” provisions outlined above, public procurement is and has been highly regulated – both by law and through the corporate governance policies of the public procurers. The Public Procurement Act, for example, states that in public procurement processes, the contract must be awarded to the bid that is either most technically-economically effective and/or the most cost-effective. Just to make it possible to analyse the bids comparatively and shield oneself against any subsequent lawsuits, calls for bids are sometimes issued in great detail and con-

²⁵ The following procedures are available: open procedure; non-open procedure (limited number of applicants invited to submit a bid); negotiated procedure (optional negotiations on entire order content after bids are submitted); master agreement; dynamic procurement system (service is purchased from one participant in the dynamic procurement system after special request to submit bid); competitive dialogue (buyer conducts a dialogue with a limited number of companies with the objective of identifying solutions for specific needs/requirements of the buyer based on which the applicants are asked to submit bids); direct procurement. BGBl (2006/17: 25)

²⁶ Definition according to the Public Procurement Act: A constructive performance specification lists the individual services to be performed in an index. A functional performance specification lists the performance and functional requirements. BGBl (2006/17: Section 95)

²⁷ An alternative bid is a proposal by the bidder for an alternative service to what was specified in the call for bids. BGBl (2006/17: Section 2)

tain a variety of technical specifications based on the procurer's experience.

It is therefore in the nature of public procurement to preserve structures and shun risk, because it is part of the genuine responsibility of procurers to protect themselves against risks of all types. This leads to a tendency to resort to what has worked in the past and the necessity, when in doubt, to handle risk and liability issues in such a way as to ensure proof of due diligence in dealing with public funds in the event of any litigation or involvement of the Federal Public Procurement Office (BVA)²⁸, Court of Auditors, etc.

2.5.5 Political players: responsibilities and activities of the economic and transportation ministry

The Federal Ministry of Economy, Family and Youth (BMWFJ, formerly BMWA) is responsible for key aspects of implementation of the Public Procurement Act (BGBl 2006/17). For example, (a) it serves as a national reporting centre for statistical listings (reporting obligation of procurers); (b) it reports to the Federal Chancellor and is responsible for reporting to the European Commission; (c) it must publicise decisions/announcements of the European Commission in the Federal Gazette; (d) it was responsible for establishing the Federal Public Procurement Office and, together with the federal government, exercises joint oversight; and (e) it must help coordinate any arbitration proceedings.

As part of its responsibilities, the Ministry of Economy authored the 2007 procurement guide "procure_inno: Praxisorientierter Practical Guide to Innovation-Friendly Public Procurement and Contact Awarding." The aim of the guide was and is to point out "[...] possibilities for implementing some of the yet unrealised potential in procurement [...]" (BMWA 2007: 3). It is designed to educate professionals about the legal requirements and provide procurers with professional tips on innovation-friendly processes and procedures, thereby making a general contribution to an innovative procurement culture. The guide focuses primarily on the recommendations of the EU Guide to Innovative Solutions in Public Procurement (EC 2007a) from an Austrian perspective.

Complementing the general activities and responsibilities of the Ministry of Economics, the Ministry for Transport, Innovation and Technology (BMVIT) focuses on companies of the federal government for whose shared administration it is responsible. ASFINAG, ÖBB and VIA DONAU are three examples of such high-volume procurers. In 2008/2009, the Federal Ministry for Transport, Innovation and Technology (BMVIT) commissioned a study on good practices of innovation-friendly public procurement that identified good practices in Austria and abroad (Buchinger and Steindl 2009a; see next section for results). The year 2009 also saw the launch of a dialogue with major infrastructure operators on innovation-oriented infrastructure policy and a discussion

²⁸ The BVA gets involved for the purposes of protecting rights at the federal level only if it receives a petition from a bidder/supplier. It does not automatically review public procurement processes. See current BVA statistics of activities (2009).

of innovation policy options in public procurement. This was received with great interest among infrastructure operators and will be continued.

2.5.6 Good practice: learning from examples in Austria and abroad

There are already a variety of public procurements in Austria and abroad that exhibit aspects of innovation-friendly good practice. There follows a representative list of examples from across the broad spectrum:

- “Sustainable Public Procurement Programme” in the Netherlands
- “Low-Carbon Vehicle Procurement Programme” in England
- “National Plan of Action for Greener Public Procurement” in Austria
- “Green Electricity Act” in Austria for public procurement of environmentally friendly electricity²⁹
- Public procurement of a road toll system in Austria “ASFINAG Electronic Truck Toll”
- Procurement of “ÖROK Online Atlas”, a tool for presenting and analysing land use
- Procurement in public construction projects “Ludesch/Vorarlberg Community centre”
- Procurement of buses for public transit in Austria “ÖBB Fleet Replacement”

- Procurement of a weather early warning system for trains in Austria “ÖBB INFRA Weather”

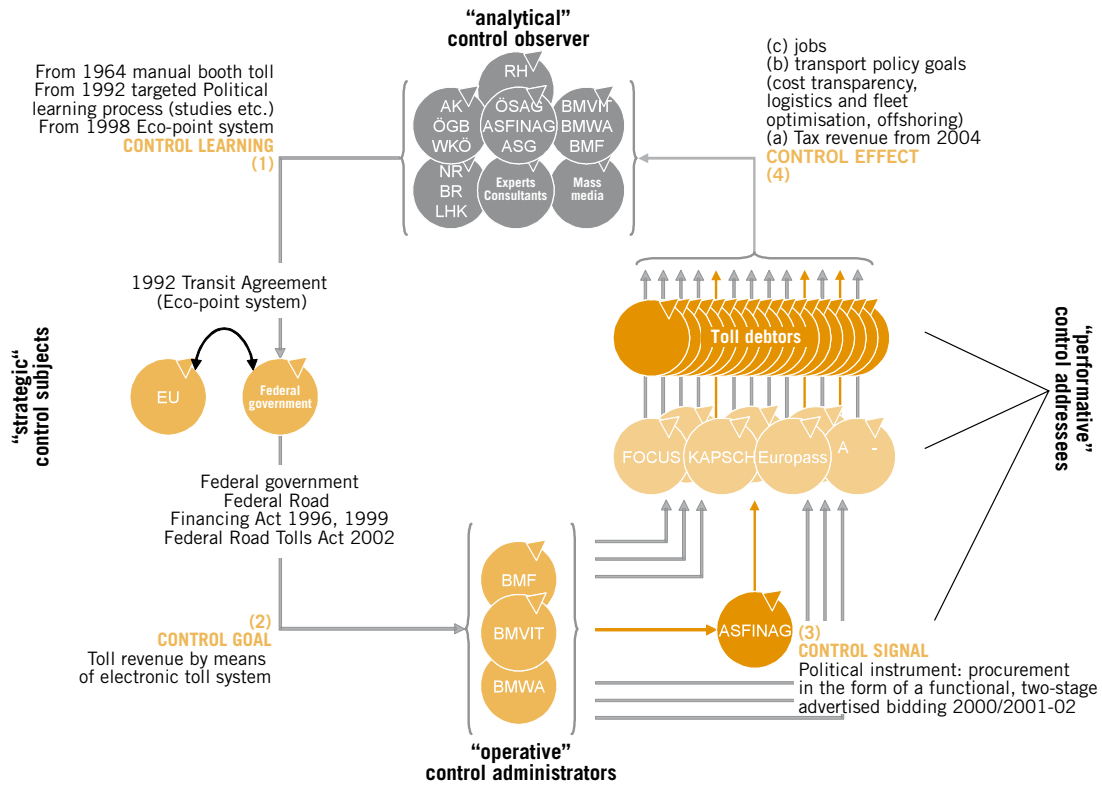
You can read about the individual aspects of good practice in these examples in the corresponding reports.³⁰ For better understanding, Figure 15 shows an overview of one of these examples.³¹ The introduction of a comprehensive radio-controlled toll system in Austria can be considered a good practice of innovation-friendly public procurement because it represents the initiation and achievement of a systemic innovation with a considerable degree of complexity. The primary aspects of good practice in this example are reliability and on-time operational capability. At the time bids were solicited, there were two feasible technologies: global positioning system (GPS), which is used in Germany, and dedicated short-range communication (DSRC), which is used in Austria. But Germany, unlike Austria, experienced significant problems with the timely completion of the toll system. Since ASFINAG financing was the central motivation for introducing a toll system (Figure 15), it was important that the system be operational on schedule so that toll income would be flowing on schedule.

²⁹ Even if the Green Electricity Act is currently the subject of critical debate (regarding the disruption of competition, amendments, the amount of feed-in tariffs, the extent of funding, etc.), we cite it here as a good practice because the tool in general is of interest and the law itself has induced measurable technology development and diffusion effects.

³⁰ For the examples cited here, see (BMWA 2007; Buchinger und Steindl 2009); for further examples, see (Edler et al. 2005; Georghiou 2007).

³¹ For specific information on the effects of the good practice examples examined here, see (Buchinger 2009a).

Figure 15: Initiation, implementation and effect of innovation-friendly public procurement as illustrated by the truck toll in Austria



RH Rechnungshof (Court of Auditors)
...LHK, Landeshauptleutekonferenz (conference of state governors)..... BR Bundesrat (upper house of parliament)
NR Nationalrat (lower house of parliament)

Source: (Buchinger and Steindl 2009a: 46)

The examples cited above have some very distinct good practice characteristics. Nevertheless, it is possible to generalise some of these characteristics. On this basis and in light of what the legal and institutional options permit, it is possible to formulate at least the following four core principles.

Principle 1: deliver a clear benefit to the procurer

All intended positive effects for society as a whole notwithstanding (environmental, health

and safety missions, jobs, competitiveness, etc.), the benefits of innovation-friendly public procurement must clearly extend to procurers themselves as well. It's possible, of course to issue innovation-specific procurement requirements in exercising the role of owner or majority shareholder of quasi-governmental companies. But such requirements will only be executed effectively if they have a clearly positive resonance in the current account balance / performance agreement. Innovation-friendly public procurement must be worthwhile for the procurer.

Principle 2: set moderate objectives and implement policy professionally

The probability of success increases the more moderate the stated objectives in a pilot programme are: desirability vs. feasibility. This is fundamentally and especially true for innovation-related procurement processes, since here you have a particularly pronounced tension between caution on the one hand and the risk of innovation on the other. One possibility for dealing productively with this tension is an incremental process – the phased introduction of programmes. Professional implementation includes both preparatory analyses and the installation of capable and appropriately equipped project management.

Principle 3: create the requirements for risk-benefit sharing

The risk and benefit of innovation-friendly public procurement should be shared among procurers, bidders and any public subsidisers (“public good”). This is a difficult requirement in that both risk and benefit calculations are associated with uncertainties, and the parties involved will arrive at different estimates based on their varying interests and levels of expertise. One possibility for sharing/reducing risk is pre-competitive procurement (see details in next section).

Principle 4: involve the relevant players

To assess the risk and benefit of innovation-friendly public procurement in the first place and develop useful calculations for risk-benefit

sharing, it is essential to coordinate and integrate the relevant players at the earliest possible stage. The variety of available (electronic) platforms, dialogue forums, etc., can prove useful if they offer a sufficiently neutral and creativity-friendly space for interactive brainstorming and critical review.

2.5.7 Overcoming market fragmentation and establishing lead markets

A high-profile debate is taking place on the idea of overcoming market fragmentation through so-called “lead markets.” The European Commission spearheaded the “Lead Market Initiative for Europe” in December 2007. Its goal is first to identify fast-growing global markets of social and economic importance and then open these markets to European companies through concentrated policy initiatives. “[...] identifying areas where concerted action through key policy instruments and framework conditions, coherent and coordinated policy making by relevant public authorities, as well as enhanced cooperation between key stakeholders can speed up market development, without interfering with competitive forces.” (EC 2007b: 2) This is to be achieved by applying the following principles (EC 2007b: 3):

- Ensure that the needs of global markets are taken into account, thereby maximising the market potential.
- Push for acceptance of EU standards in non-EU markets, especially where global trends (such as the environment) are concerned.
- Facilitate the market launch of products and services by reducing the associated costs and bundling demand.

So far, the EU initiative has identified six fields where it intends to establish lead markets (EC 2007b): eHealth, protective textiles, sustainable construction, recycling, bio-based products and renewable energies. The process of identifying these six fields was participatory, involving above all industry (European Technology Platforms) but also the relevant government ministers and users.

The Lead Market Initiative emphasises that the primary aim is not to apply standards, regulations, massive funding and the like to create artificial markets. Ideally, no additional budgets should be needed at all. Instead, the idea is to (a) rethink the priorities of existing funds/subsidies and (b) exploit the potential of public procurement. Nevertheless, legal regulations and standards should be employed in support of the initiative.

2.5.8 Commercial and pre-commercial procurement and policy mix

As is clear from the case studies and the details on commercial procurement, a wide array of policy instruments can be used to stimulate innovation-friendly public procurement. But since influence on commercial procurement is by its very nature subject to strict limitations and commercial procurement tends to focus more on dispersing innovation than on generating innovation, the focus of the discussion at the European level is on the area of pre-commercial procurement (EC 2005; EC 2006b; EC 2007c).

Pre-commercial procurement refers to R&D orders at market conditions. This means that the incurred R&D costs are paid by the procurer or a procurer consortium (i.e., no funding). Whereas commercial procurement relates to goods / services / system applications that are already marketable or nearly so, pre-commercial procurement deals with the start-up phase (research and development in the form of procurement-related R&D orders). A key advantage of pre-commercial procurement is that it reduces the innovation risk at procurement since it happens upstream from the procurement itself. It is also possible to reduce the innovation risk of pre-commercial procurement by awarding multiple R&D contracts simultaneously, for example, and identifying the optimal solutions incrementally through interim evaluations and selections. Bidders and procurers can also reach agreements on cost-benefit sharing (preferred licensing for co-bidding R&D contractors and the buyer or buyers).

From the perspective of antitrust law, it is important that R&D be explicitly exempted from the extensive regulations of public procurement. In the EU procurement guideline – which initially follows the WTO agreement in exempting R&D procurements – there is, however, one restriction that must be noted (and which accordingly is also found in Austrian law):³² R&D is exempt only if the results do not benefit the procurer exclusively but have the character of a public good. So pre-commercial procurement can take place within

32 See (WTO 1994a; WTO 1994b; EU 2004/17; EU 2004/18; BGBl 2006/17).

procurement law when it involves R&D contracts at market prices and the results only benefit the buyer. But it can also fall outside the scope of procurement law if the procurer does not alone profit from the R&D and may not even bear all the costs. The latter point is promising in the case of procurer cooperatives and/or standardisation.

2.5.9 Principle of good practice: long-term and multi-faceted policy mix

The prominent role assumed by public procurement in the debate surrounding the formation of lead markets is justified by the significant hurdle to bringing the ideas to market. This can be counteracted both through pre-commercial procurement – which must first be fully exhausted, however – and with R&D allowances (for prototypes, pilot applications and demo systems under the label of experimental development). On the other hand, creating a market with sufficiently stable expectations for a large number of bidders requires a magnitude that individual customers are seldom equipped to meet. Lead markets are therefore useful in complementing pre-commercial procurements and procurement-related R&D&I allowances.

And so overall, the stimulation of innovation-friendly public procurement can draw upon a mix of commercial and pre-commercial procurement and procurement-related allowances.³³ The political context is a key factor, even if the leeway for innovative bidders/sup-

pliers is ultimately defined in the calls for bids. Depending on the technology or problem to be addressed, a well-balanced policy mix should include the following:

- Mission statements (white papers, strategies, plans of action) and legal regulations should balance the expectations of various players over an extended period of time and provide them with reliable planning conditions.
- Pre-commercial procurement and R&D allowances should pave the way for innovative procurements that may still lie far in the future.
- Large procurement volumes (lead markets) should be reached through procurer coordination, government investment programmes and the like.
- The infrastructure and funding for pilot applications, large-scale test beds and demo projects should be made available.

2.5.10 Summary

The preliminary answer to the question of whether public procurement is an appropriate tool for innovation policy is “yes.” This finding is based on a series of examples, a select few of which are outlined here. But this is a conditional “yes”, for it would be wrong to overestimate the possibilities of innovation-friendly public procurement. Procurement in general – and public procurement to an even greater degree – seeks by its very nature to preserve known structures and shun risk. So in-

³³ See details on innovation policy options in Austria (Buchinger 2009b).

novation-friendly public procurement runs the risk of stumbling over the inherent “risk tension” – the risk of innovation vs. the security of procurement – and thus over the inherent conflict of objectives.

The first step in overcoming or reducing this “risk tension” is a clear statement of political intent. The case studies illustrate the type of such a statement of intent: Mission statements in the form of strategy papers and national plans of action play a role in green procurement, for example, while laws play a role in

toll systems and green electricity. Voluntary standards affect sustainable procurement, and policy programmes pertain to nearly all examples. There is no predetermined ideal form. Various procedures may be appropriate, depending on the technological field and the situation at the outset. What’s critical, however, is that the statement of political intent be appropriate to establish reliable expectations and assure stability when it comes to the content and timeline.

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