

# Chapter 11

## Sweden

### Public Procurement of Innovation in Sweden

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**Abstract** Sweden is often thought of as a country with a strong tradition for using public procurement as a means to stimulate innovation. Early on, Sweden recognized and developed procedures for using public procurement as a technology-development tool. After a period where emphasis was put on this aspect of public procurement Sweden dropped many policy initiatives within this field. This was in part due to neo-liberal movements during the 1980s which in interaction with a distributed institutional setup led to the removal of incentives for a procuring authority to engage in public procurement of innovation. Another contributing cause was poor policy guidance from the academia upon Sweden's accession into the EU, which spread apprehension among procuring authorities. It is not until the last few years that Sweden has started to reengage in public procurement for innovation policy, by using predominantly government authorities to engage in public procurement for innovation, and by issuing guidance on the topic.

#### 11.1 Introduction

Sweden is frequently considered to carry a historical legacy when it comes to applying public procurement as a tool to render innovation. The reasons for this view are empirical as well as scholarly. Several of the early examples of cases cited in current debates where public agencies have acted to formulate demand for private-sector innovation are Swedish. One volume dealing with a particular

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procurement technique, technology procurement, was essentially a Swedish initiative (Edquist et al. 2000). Several PhD theses have also evolved within the Swedish context (Westling 1991; Hidjefäll 1997; Fridlund 1999; Rolfstam 2008). In the 1980s, some work was conducted that from a Swedish perspective could perhaps be seen as the starting point of this evolution (Granstrand 1984; Granstrand and Sigurdsson 1985).

Even if Sweden today holds knowledge and capabilities to perform rather complex public-procurement-of-innovation projects, there are reasons for challenging the general view of Sweden as a strong country in this field. A more balanced view has to take into account that countries, in Europe and elsewhere, have been as active or even more successful in applying public procurement as an innovation-policy tool. The level of activity within this field appears to have declined in Sweden over the last few decades. It is only in the last few years that more explicit centrally coordinated actions have been executed to stimulate the use of public procurement as an innovation-policy tool. To some extent this evolution is consistent with the general neo-liberal winds that prevailed in the last few decades and affected most countries. Perceptions relating to Sweden joining the European Union in combination with rather poor policy advice from academia play a part in making Sweden the current runner-up when it comes to recent developments of policies and best practice. In this chapter we will suggest how a rather distributed institutional set-up in Sweden creates particular needs for future developments of policies. Future policies for public procurement as a tool for stimulating innovation will probably rely on centrally coordinated activities that take into account endogenous initiatives.

## 11.2 Country Background Information

The way policy evolves and diffuses is affected by the decentralised institutional set-up. Sweden holds three levels of institutions with legislative and political power. Sweden is governed by the national parliament (Riksdagen), and the executive power is held by the government (Regeringen) elected by the parliament. Further, the country is geographically divided into 20 county councils and 290 municipalities. Both these institutional levels are governed by publicly elected councils and hold minor legislative and major executive powers in their own right.

The power of the parliament is limited to a legislative power, which means the parliament can only govern by enacting laws. Laws have to be generally applicable, hence a *lex in casu*, i.e. a law for a particular situation or case, is not, generally, seen as constitutional (cf. Strömberg 1999). The executive power is provided to the government either through laws or the government's general competence to provide provisions on the implementation of laws. Within this competence the government can issue provisions regarding a public authority's purpose and priorities by handing out instructions in the form of ordinances. However, there is no power granted to the government to regulate the organisation,

work routines or the execution of the authority's assignments. Neither is there a general competence for the government to override decisions made by an authority. Thus, public power in Sweden is exercised on several institutional levels which to a large extent are independent of each other.

This institutional set-up means that the national level has relatively few means to directly affect practice on sub-national levels. Thus, the competences and traditions regarding public procurement of innovation are unevenly distributed. In the mid-2000s, for example, the Swedish development of public procurement of innovation in general was described as 'scattered' (Edler et al. 2005). Although competence to perform rather advanced procurement projects existed among certain public agencies, these 'competence cells' were rather endogenous in character. Some public agencies have built state-of-the art knowledge on how to use public procurement of innovation, while others have not put much emphasis on this issue. However, although this basic institutional structure has not changed, there is an increased level of activity seen in the last few years initiated to promote different aspects of public procurement of innovation.

### 11.3 Public Procurement Overview

There prevail some uncertainties concerning the values of public procurement. The statistics are scarce, and sometimes the figures given are based on estimations. The annual value of public procurement in Sweden is estimated at SEK 400–600 billion (Statskontoret 2010). This would suggest that public procurement amounts to 15.5–18.5 % of GDP (Bergman 2008). In 2008 and 2009 public procurement by the national authorities amounted to SEK 159.8 and 161.4 billion respectively. (Ekonomistyrningsverket 2010). Public agencies on the sub-national levels, county and municipality, also including public companies, contribute to the remaining amount, making sub-national procurement more important, at least measured in monetary means.

Counting CPV-codes in TED, and thus counting procurement notices above the thresholds, procurement contracts accounting for 2.8 % falls within the construction and built-environment sector and 2.6 % related to road and railroad construction. Cleaning services account for 1.6 %, property insurance 1.2 %, IT consultancy services 1.1 % (Swedish Competition Authority 2011). The average number of bidders is 4.4 for all contracts (Swedish Competition Authority 2012). As can be seen in Table 11.1, most initiated procurement processes are either done by municipalities or by public corporations, both are bodies out of reach from direct control of the national Swedish government and the parliament.

Table 11.2 shows that most published procurement procedures are those below threshold, and that among the directive compliant procedures, the open procedures are, not surprisingly, dominant (Swedish Competition Authority 2012).

Estimative statistics suggest that 49 % of all procurement awards are made by considering the most economically advantageous tender, and 33 % use lowest

**Table 11.1** Distribution of procuring authorities and number of procurement procedures published, 2010 (Adapted from Swedish Competition Authority 2012: 16)

Type of authority	N procurement procedures	Percentage of total
Municipalities	7,812	42
Public firms	4,804	26
Authorities	3,808	20
Counties	1,471	8
Other	858	5

**Table 11.2** Number of published procurement procedures 2010 (Adapted from Swedish Competition Authority 2012: 13)

Procedure	N procurement procedures	Percentage of total
Simplified procedure (i.e. open procedure below thresholds)	13,525	72
Open	4,326	23
Negotiated	440	2
Selection procedure (i.e. restrictive procedure below thresholds)	310	2
Restricted	136	1
Competitive dialogue	8	0
Negotiated without advertisement	3	0
Design competition	2	0
Other	8	0

prices in awarding contracts; 18 % of the tender notices have not stated award procedure (Swedish Competition Authority 2012). Nevertheless, a survey on procurement projects conducted by the Swedish Transport Administration shows that the authority procured road-construction projects by using a design-bid-build delivery method in 80–90 % of the projects during 2006–2010. In the same timeframe 70–90 % of the tenders were awarded to the bid with the lowest price. In between 8 and 25 % of the cases the authority got alternative solutions, but in only 6–12 % of the projects an alternative solution was accepted (Olander et al. 2011b). Thus, the conclusion has to be that tender notices do not actually represent the reality regarding award procedures.

### ***11.3.1 National Public-Procurement System: Characteristics of National Public-Procurement Policy***

Before Sweden's accession to the European Union in 1995, the public-procurement system was based upon a value-for-money (VfM) approach. Government authorities did have an obligation not to discriminate against suppliers from other countries (following the international general agreement on tariffs and trade). However, there

were only a few legal remedies provided for when the authorities overstepped those rules. Almost all municipalities had invested a voluntary set of rules for public procurement, trying to ensure proper use of taxpayers' money. There were no specific remedies available for suppliers, but there were some possibilities for citizens to question the legality of a purchasing decision if funds were misused. The focus of the VfM approach did carry over to the implementation of the public-procurement directives (93/37/EC) upon the coming entrance into the European Union. Thus, the resulting law [Lag (1992:1528) om offentlig upphandling, The Public Procurement Act] stated "Procurement shall be executed by using those possibilities for competition which exist, and otherwise be conducted in a commercial manner, tenderers and tenders shall not be treated extraneously" (authors' translation). Nevertheless, in national case law VfM was given little attention, especially in the later years of the law's life. Rather, the courts preferred to interpret the paragraph as a codification of the basic principles laid down by the treaty and the EC court: the principles of non-discrimination, openness and transparency, equal treatment, proportionality and mutual recognition. During the implementation of the newer directives (2004/18/EC, 2004/17/EC) a more literal approach was taken (Lag (2007:1091) om offentlig upphandling for the classic directive and Lag (2007:1092) om upphandling inom områdena vatten, energi, transporter och posttjänster for the utilities directive), and thus the wording of the directives have led the public-procurement system in Sweden to be directed more towards the goals of the directives (promoting the common market, and to some extent reduce corruption), and thus, the VfM direction has been largely unregulated ever since.

A Swedish inquiry dealing with public procurement of innovation was released in 2010 (SOU 2010). The rather substantial document includes a review of how public procurement has been used over the years in Sweden; legal matters, risks, and also pre-commercial procurement is given much attention. Three areas identified as having special potential for public procurement of innovation in Sweden are infrastructure, healthcare and environment. It cites the well-known cases of development pairs between Swedish public agencies and private companies that evolved in the 20th century and the role technology procurement has had in Sweden in the past. The inquiry also concludes that the institutional set-up is different today than it was in the past. This is discussed below.

Until 1970 toll barriers on most foreign-industry products were used to give preferential treatment to national enterprises. From this followed a need to ensure that national industry could keep up with the world's technological developments. This development created an incentive for public authorities to actively help and promote national industry sectors in order to satisfy its own needs (SOU 2010). During the same time a transformation of the public sector took place in Sweden. Swedish authorities have gone from a high level of in-house production of support services to an out-sourcing strategy. Public authorities, such as the government telecommunications agency and the national railroad transportation agency, among many others, have been incorporated and lost their legal monopoly on the market. Some have even been sold. Another current trend is to let government services, such as healthcare, compete with privately run alternatives. Consequently, today,

the government does not need to build nationwide telecommunications networks itself, nor does it need state-of-the-art locomotives, thus the fundamental drivers for innovation have been changed. Also the purchasing power that, e.g., the national telecom agency could utilise on a monopolistic market in the past is not available any longer—gone are also the incentives to do so.

The inquiry distinguishes between innovation-friendly public procurement and innovation procurement. The former notion essentially underscores the ambition to make all public procurement open to supplier innovations. In other words, a procurement process should not be restricted to considering mature, well-known products only, but should also enable suppliers to propose innovative solutions. Innovation procurement, in the understanding of the inquiry, corresponds to the Swedish understanding of technology procurement. One could argue that this distinction also reflects a conservative expectation regarding the extent to which public procurement can be used as a strategic instrument for ‘grand challenges’. This modest role has also been brought forward in the literature. Promoting innovation-friendly procurement practises in general is seen as a more realistic ambition than thinking of public procurement of innovation as a strategic policy tool (Uyarra and Flanagan 2010).

The inquiry also addresses pre-commercial procurement. This is an ‘approach to procuring R&D services’ (European Commission 2007: 2), aiming specifically to bridge the gap between scientific knowledge and the market through the application of public demand-pull, which has been introduced at the European level. The inquiry proposes that pre-commercial procurement should be regulated in Swedish law. The main justification for this proposition is legal. Pre-commercial procurement is not explicitly regulated in the Swedish public procurement law, and it may in some cases fall under the research exception in the directives. When the research exception can be invoked, the procurement process would still be governed by primary EU law and the fundamental principles of public procurement would apply.

New regulation would ensure compliance with primary law and, the inquiry argues, make the pre-commercial procurement process more predictable for the procuring authorities. It is unclear if any considerations in relation to policies striving towards enabling innovation have been made in the process leading to this recommendation. What is noteworthy is, thus, that the inquiry proposes to regulate an area which today is, to some extent, outside the scope of the directives. Nevertheless, the Commission has taken a similar view introducing an innovation partnership procedure in its reform proposal for new public procurement directives (European Commission 2011a).

It is not clear if the inquiry’s suggestions will lead to actual legislation, and there is a new inquiry looking into the public procurement legislation. The aim of the new inquiry is to evaluate the current legislation from a VfM approach, while taking into account environmental and social issues. Innovation is not explicitly mentioned in the instructions for the inquiry, but it does state a desire to extend possibilities for SMEs to grow through public-procurement contracts (SOU 2011).

### ***11.3.2 Regulation of Public Procurement and Implications to Innovation***

Swedish public-procurement law is defined by the Swedish membership in the European Union. The European Union can affect member states through formulation of regulations, decisions, directives, recommendations or opinions. Public procurement in the EU is regulated through primary law (through the treaties of the European Union) and through secondary law, predominantly in the form of directives. Like regulations, directives must be complied with, but it is laid upon the (concerned) individual member states to transpose, i.e. implement, them according to their own choice within the time period, as specified in the directive. Directives are distinct from recommendations and opinions, which have no binding force at all. In the case of public procurement, the European Union thus adopts the subsidiarity principle, which reflects an ambition to avoid top-down governance from the European level. As a consequence, even if the outcome presumably is the same for all EU member states national procurement law may be organised differently in different EU member states. Sweden has chosen to regulate areas which are not explicitly covered by the directives such as procurement below the EU-set thresholds and so-called B services. The regulation of these tendering procedures follows the same fundamental rules which are applied in the directives; however, rules for publishing notices and choice of procedures are simplified. Thus, those additional rules do not affect possibilities to conduct public procurement for innovation.

Another law which may affect public-procurement-of-innovation policy is the Law of System for Consumer choice (Lag (2008:962) om valfrihetssystem). This law is applied to B services within health and social care and within employment services. The law allows for public authority to procure contracts with suppliers of these services and thus creating concessions for providing health and social-care services to citizens. However, instead of procuring one concession holder, every supplier who meets the set requirements is allowed to enter the concession system. A citizen can freely choose any supplier within the system to provide the service needed, for example primary healthcare. This practice somewhat limits the possibility for the responsible public authority to exercise purchasing power in order to enforce policy ambitions, such as innovation policies. On the other hand, it may facilitate market-driven innovation instead, driven by user needs, or at least consumer-choice rationalities.

The regulation on government-sourcing coordination (Förordning (1998:796) om statlig inköpsamordning) requires every government authority to use procured coordinated framework agreements whenever possible. Those framework agreements are generally of high value, wielding immense purchasing power. However, due to the nature of the collaboration, those agreements have to include needs from all government agencies, and thus are not suitable to deliver particular needs for one single agency. While this practice could prove to be a useful tool to conduct public procurement of innovation due to the incentive power of high value

contracts, it could also hamper innovation due to inabilities to find communalities within all government agencies which have bearing on a specific policy, such as innovation. Nevertheless, due to the distributed character of Swedish political institutions described above, this may prove to be a tool for implementing national policies on public procurement of innovation.

### ***11.3.3 Public-Sector Structure Related to Government Procurement***

Although centralised policies promoting the role of public procurement as a means to stimulate innovation have been relatively modest, some recent initiatives might change this general picture in the future. Four public agencies on the national level perform some kind of support to public procurement in general. The Swedish Competition Authority (Konkurrensverket) is the overseeing authority on public procurement. The Legal, Financial and Administrative Services Agency (Kammarkollegiet) has a responsibility to provide guidance on the usage of the public procurement regulations. The Swedish Agency for Economic and Regional Growth (Tillväxtverket), and the Swedish Governmental Agency for Innovation Systems (VINNOVA) (Statskontoret 2010) has some responsibilities to promote innovation in public procurement. All these agencies have initiated different information programmes, funding schemes, support functions etc. where using public procurement as a way of rendering innovation is an explicit component. VINNOVA, for example, was given SEK 24 million for a programme to start in 2011 to promote public procurement of innovation. A dedicated team has been set up with an annual budget of SEK 9 million that works with this issue. One of the concrete actions taken so far is a published call for projects devoted to pre-commercial procurement.

Another example is the project initiated by the Swedish Agency for Economic and Regional Growth. 'Learning public procurement of innovation' (Lärande om innovativ upphandling). This project involved four counties (Västra Götaland, Västerbotten, Skåne, Dalarna. This was essentially an educating project aiming at increasing knowledge about public procurement of innovation in general as well as the involvement of SMEs. (Lärande om innovativ upphandling, undated). Furthermore, a non-government organization, the Swedish Environmental Management Council (Miljöstylningsrådet), owned and funded by municipalities and regions, has an assignment to provide guidance on environmental and social considerations in public procurement. Attempts have also been made to use public procurement in practice to generate innovation. In what was called technology procurement the municipality of Stockholm and the state-owned utility company Vattenfall in cooperation with the Swedish Association of Local Authorities and Regions initiated the procurement of electrical cars, with the expressed purpose of providing a market for commercialisation of electric vehicles.



The above examples indicate that activities related to promoting the use of public procurement as a means to stimulate innovation do exist. Funding has been made available, knowledge is diffused, and concrete attempts have been made to apply these ideas in practice. However, given the administrative structure in Sweden, as described above, the promoting agencies do not have any power to enforce policy. They are left with more indirect tools such as providing funding or knowledge, as described above.

## 11.4 Public-Procurement Policy and Innovation

### 11.4.1 *Main Characteristics, Policy Types and Institutional Set-Up*

Sweden is often claimed to have strong traditions in using public procurement of innovation. One could argue, at least on a general level, that Sweden has evolved from an emphasis on public procurement of innovation as a technology-development platform, through a ‘no-policy policy’, to the current state where an increasing number of examples of a ‘policy-for-all-seasons policy’ can be found. Examples of the former are the development pairs that prevailed in the past (Fridlund 1999). Such close collaboration existed between the Royal Board of Waterfalls (Vattenfall AB) and ASEA (later ABB) in the 20th century, where the public agency provided the necessary willingness to take risks associated with the development of innovative technology (ibid. 1999). The important role played by public telecom operators in the 1980s to stimulate innovation in telecom in a similar way is also well-known, not only from Sweden but also Finland (Palmberg 2002; Berggren and Laestadius 2003).

One tell-tale sign of the competence that existed early in Sweden is provided in a public inquiry from 1976 (SOU 1976), where the Technology procurement committee (Teknikupphandlingskommittén) proposed a model similar to the recently introduced pre-commercial procurement proposed on the EU level. Technology procurement was envisaged to consist of four steps.

1. Initial planning, where functions were specified and budget frames were established, and forecast of expected technological developments without intervention.
2. Feasibility studies where different technological solutions were identified and evaluated, and where possible interaction effects of cooperation with other public authorities were to be identified.
3. Procurement of prototype development aiming at clarifying uncertainties, finalising technical specifications and setting performance criteria.
4. Based on decisions under 3: A full commercial procurement project was to be conducted under regular forms for procurement.

Although this model must be understood as a technology-policy instrument of the time, as compared to the current innovation-policy understanding of pre-commercial procurement, it is still noteworthy that the Swedish discourse predates the current European one by some 30 years.

The current state of ‘policy for all seasons’ is seen in the adoption of ‘innovation-friendly’ procurement, not only by the inquiry discussed above (SOU 2010), but also by VINNOVA. This notion reflects the underlying idea that all public procurement in any sector could become ‘innovation-allowing’. The application of this principle would be straight-forward and reduced to a matter of specification. Even for the procurement of well-known goods and/or services innovation could be allowed by applying functional specification in the tender call. As different from tender calls applying detailed technical specification, which typically work to restrict suppliers’ possibilities to come up with any creative solutions, the application of functional specifications would at least allow suppliers to submit alternative solutions not known to the procurer. The same general pattern emerges if one looks at the projects currently funded by VINNOVA’s programme on pre-commercial procurement underway (from 2012 and onwards). These projects seek to create innovation in e.g. meals for the elderly, design of entrances to meet the need of the handicapped, innovation in clean-tech, innovation in robotics to assist elderly people in their everyday lives. They are all essentially procurement projects devoted to satisfying intrinsic needs, where the role of any generic innovation-policy rationales is relatively weak. Also, although many of these projects deal with health-care issues the call itself is open to any entity operating under the public-procurement rules.

### ***11.4.2 Drivers and Hindrances of Policy Developments***

Taking into consideration that public procurement was a rather well-established demand-side innovation instrument in the past, Sweden’s response to current policy development within the EU has been rather slow. In a survey conducted by the European commission on policy developments on pre-commercial procurement Sweden was not among the leaders (European Commission 2011b). Rather, Sweden ended up in the third category (out of four). The members of the third group (“Working on framework”) reported having explicit plans to start PCP pilots and/or that they had started working on identifying national or regional support schemes for PCP. This is a somewhat modest position in light of the fact that Sweden is considered a country with a strong tradition of using public procurement as a means to stimulate innovation. This heritage may be one reason to expect some catching-up in relation to the development of policies and practices for PCP.

To some extent the current state can be explained by the rather distributed power structure in the country, as discussed above. In comparison to e.g. UK and Denmark, lower institutional levels have much more freedom to act. To a larger

extent activity stems from endogenous drives rather than being a response to instructions from the national government. One should, however, note that the transition from a state of no policy has just recently begun. Even if central policy-making could have had an impact, the lack of policies promoting public procurement as a means to stimulate innovation is probably a more important factor.

One explanation for the relatively modest policy development is that Swedish policy makers have acted based on misinformation from academics. Instead of providing advice on how to find new ways of procuring innovation in the new institutional set-up characterised by the liberalisation and the Swedish membership in the EU, policy makers have been led to pay attention to the alleged ‘tensions’ in the Directives that would inhibit possibilities for procuring innovation (Edquist et al. 2000). This has nurtured what could be described as a relinquished culture in the public sector justifying inactivity. For what sane procurer would engage in innovation if ‘science’ says it is prohibited by the Directives? The academic community has thus helped to stall a policy development which, given earlier traditions, could have sustained Sweden’s position as one of the leaders, instead of the current situation where Sweden is one of the runners-up.

### ***11.4.3 Development of the National Innovation System Vis-a-Vis Developments in Public Procurement***

Persson (2008) outlines some formative moments that have paved the way for the current innovation policy-making in Sweden. Following this author the first major technology policy initiatives emerged in the 1940s with the establishment of the Swedish Technical Research Council (TFR) in 1942 as the first formative moment. TFR was one of the first Swedish research councils providing direct funding for research projects mainly initiated at the technical universities in Sweden. In the 1960s and early 1970s came the industrial policy offensive, which according to Persson (2008) is the second formative moment. Much emphasised was the importance of government intervention. These were the times of mission-oriented agencies (Benner and Sandström 2000). In 1969 the Ministry of Industry was established, and the Board for Technical Development (STU) was established in 1968. This agency took over responsibilities from an array of organisations including TFR, which was closed down the same year. STU became the main instrument for Swedish technology policy and included a part of project-funding, low interest loans and also technology procurement (Persson 2008). STU did, however, only support public technology procurement connected to the public authorities’ affairs and needs, while general innovation support was restricted to low-interest loans covered by guarantees from the borrower and state aid (SOU 1976). During the same period some sector-based authorities were created to promote academic research but also industrial sector-based technology development. One of these authorities was the state committee for construction research

(Statens råd för byggnadsforskning). They supported technology procurement through project-funding and low interest loans, in order to offset risks occurring in technology procurement projects. One example where public technology procurement was supported was a municipality programme promoting elderly living standards by, among other measures, providing pre-procured elevators for retrofitting in buildings (Jande et al. 1988).

The focus on research on the built environment was not coincidental. During the European post-war era, Sweden had a lack of available labour, and at the same time there was political pressure to improve and modernise living conditions (Eriksson 1996). To avoid a transfer of labour from the, at the time, lucrative export industry a government inquiry concluded that the regeneration of the Swedish housing stock had to be carried out without an increase usage of labour, thus creating a need for increased efficiency and a higher degree of industrialisation in the construction sector (Dalén and Holm 1965). It was in essence a tailoristic approach to public governance which was taken. Nevertheless, a public inquiry (SOU 1968) stated that the creation of rational construction projects had to be driven by the industry rather than by the government. But in order to still promote the policy of industrialising the construction industry, the inquiry suggestion was to create larger and dominant public land lords who could use their sourcing power to promote the policy. There was a tendency to drive innovation with closed systems in a design-build delivery system. Using closed systems larger contractors could compete employing internally developed production methods as a competition tool. The public client could then 'outsource' the responsibility for higher industrialisation to the larger contractors (Eriksson 1994). The motivation for the public clients to drive this development came from beneficial loans provided by the government (SOU 1971). In 1991 STU merged with some other agency to form the Swedish National Board for Technical and Industrial Development (NUTEK). NUTEK set out to increase relevance in academic research by fostering academy-industry coalitions (Benner and Sandström 2000). One central aim for NUTEK was to connect academic research to Swedish industry, where the starting point was the competence in existing industrial structure (ibid.).

The third formative moment is connected to the neo-liberal policy discourse of the last decades of the 20th century, which helped to discourage further development of public procurement as an innovation policy instrument. Any actions made relied on assumptions drawn on mainstream economics and non-intervention ideas. On the European level the Public Procurement Directives were designed to prevent nationalistic, protected and (therefore) inefficient procurement and instead promote the creation of a common European market (Cox and Furlong 1996). Similarly, (Gavras et al. 2006: 70–71) argue that the EC Directives were stressing regulation rather than strategy, the free market rather than interventionist orientation, European rather than national competitiveness, competition rather than protectionism, equal opportunity rather than collaboration and learning, and competitive markets rather than public-sector monopolies (see also European Commission 1998; and Martin et al. 1997). Sweden was no exception to this general trend, and as in many other places, intervention in the market economy

was not in fashion. Over these years deregulation, liberalisation and privatisation of public companies were central elements in Swedish policy, especially during the right-wing government in power from 1991 to 1994 (Persson 2008). There were even academics who tried to explain the lack of strategic concern in public-procurement practice with what they perceived as ‘tension’ in the Procurement Directives (Edquist et al. 2000). During this time period a public inquiry (SOU 1997) stated that technology procurement should not be used as a ‘policy for all seasons’ but rather as a technological development platform to meet public authorities’ demands and to meet public goods such as social and environmental targets. The inquiry further suggests that local and regional authorities need to be informed concerning available opportunities for technology procurement, although initiative has to be taken directly by the local authorities with local political support (SOU 1997).

What could be seen as a fourth, or a current formative moment relates to the establishment of the National Agency for Innovation System (VINNOVA) in 2000. VINNOVA is the agency behind the most recent initiatives to promote public procurement of innovation, and has also increased its visibility on the EU level in the last few years. This is, however, a relatively recent adoption in light of the development on the EU level where the interest in public procurement of innovation awakened through the Lisbon agenda goals. For the EU, public procurement rendered interest over a decade ago, being identified as a tool to increase competitive advantage in a global economy (European Council 2000; European Commission 2003; European Commission 2005; Edler et al. 2005). Although public procurement has historically been a tool utilised within energy (see below) in Sweden, the adoption of public procurement as a means to stimulate innovation in Sweden has got a slow start. Nonetheless, while stimulation effects in general are explicitly mentioned as a positive effect in the latest public inquiry regarding public procurement for innovation (SOU 2010) there are no policy recommendations expanding the reach of public procurement for innovation beyond a technology-development platform. And, as in earlier cases (SOU 1997), policy suggestions are focused on enabling public authorities to implement innovation procurement rather than requiring them to implement innovation aspects in public procurement.

#### ***11.4.4 Sector-Specific Developments; Commonalities and Differences Between Sectors***

Essentially without the generic concern for innovation as a way of sustaining competitive advantage in a global economy, but to promote development of energy-efficient technologies, the Swedish Energy Agency (Energimyndigheten) has for many years used technology procurement as a way of provoking market transformations of more energy-efficient products. These procurement projects

have mainly been catalytic rather than aiming at satisfying the procurer's intrinsic need (Neij 2001; Rolfstam 2012a).

The Swedish Transport Administration (STA) has had a similar responsibility to use technology procurement in order to create innovation in the transportation sector, as is the case with the Swedish Energy Agency. This has led to project such as the ISA project (intelligent speed adaption). In other respects the STA has first and foremost tried to promote innovation by using a design-build delivery method. The construction of Tjörnbron (the Tjörn bridge) was conducted through a design-build method, with special focus for the tenderers on delivery time (Westling 1982). However, more general policies have also been applied to the sector. In 2003, what was then the Swedish National Road Administration and the Swedish National Rail Administration started in a joint-effort FIA, Change, in the civil engineering sector, with the expressed purpose to increase efficacy in the sector, extended research and education efforts, and with the articulated intent to increase diffusion of knowledge and research throughout the industry (Swedish Transport Administration 2012).

In a government inquiry (SOU 2009) several factors promoting increased efficacy and innovation were identified. One conclusion was that public procurement of civil engineering projects needed to be more open to new production methods. It was also suggested that an increased use of design-bid-build and design-build-operate contracts would strengthen the sector's innovation system. Another suggestion believed to strengthen innovation was to consider risk allocation between contract parties more carefully in order to secure an optimal allocation of risk to the party which has the possibility to affect risk outcome.

In another inquiry regarding productivity enhancements in the civil engineering sector (SOU 2012), the same recommendations have been preliminarily put forward. In one report commissioned by the inquiry it is suggested that the civil-engineering innovation system is driven by endogenous drivers, i.e. great care is being taken in order to 'do things right' but there is less concern as to whether exogenous factors 'do the right thing' (Eriksson et al. 2011). One proposed remedy is to use other contract arrangements which support innovation and give incentives for innovation or spread risks (Eriksson et al. 2011). In another report commissioned by the inquiry similar conclusions have been drawn, emphasising not only the contract arrangements but also extensive specifications as a barrier for innovation (Olander et al. 2011a). Further, since the beginning of 2012, there has been an explicit regulation in the instructions for the authority to use its client role in order to promote productivity, innovation and an effective market. The provision explicitly mirrors the already present provisions for the Swedish Energy Agency.

One interesting idea concerns destructive public procurement of innovation, where the whole purpose is to remove from the market undesired components or products (Rolfstam 2012a). One example of such 'constructive' destructive procurement are the activities carried out by the Jegrelius Institute for Applied Green Chemistry (Jegrelius 2010). This is an institute connected to the Region Jämtland County Council in Sweden, which works to remove hazardous chemicals in health-care products through public procurement of innovation. One project that attracted

attention was devoted to developing a PVC-free blood bag. The project essentially attempted to replace a hazardous chemical component of an already existing product. The project included a feasibility study, the formation of a purchaser group that was eventually able to come up with a specification of a PVC-free blood bag. The project also put a lot of emphasis on surveying the market for options as well as scrutinising the possibilities given by the prevailing institutional framework. As the procurement project concerned a medical device, not only the EC Procurement Directives were considered, but also standards and laws regulating medical devices. The project did not render a new product on the market, but concluded that technology procurement is a less useful tool for products that require a relatively long time to reach the market (Jegrelius 2010).

### ***11.4.5 Outcomes of Policies***

As indicated in the previous section, many of the procurement activities seen in Sweden are built on two pillars, the traditions from the past to use public procurement as a means to develop new technology, and current sector-specific policies and intrinsic needs. The procurement skills that exist in different sectors or agencies also typically reflect the context. They are specialised and could be viewed as an extension of the rationalities of a particular public agency or sector (for a discussion on rationalities see Gregersen 1992; Rolfstam 2012b). Procurement experts in the energy sector, for instance, would be driven primarily by rationalities that would render energy-efficient and sustainable solutions, not ‘innovation’ in general. Although certain relatively open funding schemes have emerged in the last few years these exogenous and centrally coordinated initiatives have, at least up to this point, played a relatively limited role. Given the institutional set-up in Sweden this is probably a situation that will prevail. In order for centrally coordinated programmes to be successful, an institutional match between national-level programmes and more endogenous rationalities as prevailing in specific public agencies must be achieved. Open calls, such as the VINNOVA call for pre-commercial procurement discussed above, might therefore turn out useful.

## **11.5 Lessons and Future Developments**

The analysis of policy development in Sweden made above exhibits some ‘dissonance’. In subsequent public inquiries the political ambition to implement public procurement for innovation as a technology-development policy seems to be expressed. However, examining the actual execution of projects and initiatives and the creation of policy instruments seems to be directed towards using public procurement as a ‘policy for all seasons’. This can be seen in the notion of ‘innovation-friendly’ procurement, which is a policy that does not go further than

stressing the possibility to allow innovative solutions in any tender call. This might be explained by the decentralised administrative, legal and political characteristics of Sweden. In order to understand this dissonance it might be clarifying to examine power relationships between the policy creators and the actors implementing policies by realising public-procurement projects (Haugaard 2010). Given the decentralised state of Sweden, it is hard to enforce a national innovation policy for public procurement, requiring actors to act in accordance with the policy, using a *power-over* perspective. Instead, a *power-to* philosophy has been applied. The policy shifts from promoting innovation by introducing a R&D policy in the 1940s, a focus on sector-specific technology development support during the 1960–1970s. During the 1980–1990s no governmental programmes were set up, and the last remaining incentive programmes were decommissioned, due to the view that the market should create its own innovation system. Supporting the market was seen as supporting innovation in the neo-liberal era. In the new millennium, general programmes have been put forward, and authorities have been given the task to actually support innovation within the authority's sector. The political intentions voiced in public inquiries have, during the entire period, been static in that they voice a need for government support of innovation on a general level in order to enable market growth through innovation and to use innovation procurement, primarily pre-commercial procurement, in order to satisfy governmental needs or public goods more efficiently. This could be interpreted as shifts in political approaches to power rather than shifts in the view of the role of public procurement in innovation policy. During the post-war tailoristic era, government intervention was seen as necessary, and maybe even desirable, to enforce policy. A lack of legal possibilities to enact *power-over* instigated advanced incentives and risk-offset programmes, enabling procuring authorities to implement technology procurement. During the neo-liberal formative moment, there was no significant change in political views on public procurement expressed in public inquiries, nevertheless looking at results from this period can be described as a 'no policy' policy. The absence of policy regarding the use of public procurement as a tool for promoting innovation suggests the neo-liberal winds might be affecting the national governmental view of *power-to* rather than innovation policy. During this time no incentive programmes were set up, and procuring authorities had to assume all risks involved with innovation procurement. In the latest, and maybe current, formative moment, *power-to* is approached from a perspective of emancipation, trying to enable procuring authorities to conduct innovative procurement by providing tools and knowledge. This is done by suggesting changes in law, not to allow for innovation but to make the possibilities explicit. New governmental agencies (Ekonomistyrningsverket, Trafikverket) get explicit "role model" instructions, other agencies (KKV, Kammarkollegiet) get the responsibility for issuing guidance documents for the actual procedures of public procurement of innovation. Then again, public procurement as expressed in political documents has not changed, only the view of power on how to implement those policies seems changed. In retrospect, one can see that the well-known development pairs cited in the literature (Fridlund 1999) are driven to a large extent by endogenous



factors within state-monopolies rather than a public-procurement-for-innovation policy. There are exceptions as with the express technology procurement of the school computer Compis (Kaiserfeld 2000), but this procurement initiative was not successful in its policy goals.

## 11.6 Conclusions

In academic literature, Sweden has been known as an example of a country with an innovation policy encouraging technology development, and well-known technology pairs have been cited in narratives on Swedish public procurement of innovation. While historically there have indeed been technology-procurement policies in Sweden, especially during the 1960s and 1970s, a closer look on the policy development since the end of the second world war unveils different modes of innovation policies developing over the years. On the national level, policy development has, *prima facie*, been going from technology procurement, passing 'no-policy policy' and ending up in a renewed use of programmes promoting public authorities' use of public procurement as a driver for innovation. This is to some extent a development that is consistent with other countries. However, the political intention as described by public inquiries has since the sixties been more expressed as a 'policy for all seasons', a policy to support innovation on a general, national level without expressed sectors in mind. This has probably been caused by the Swedish legal set-up of administrative institutions, which prevents far-reaching national regulation of administrative institutions. Nevertheless, during the 1960s there were advanced incentive schemes provided by the government to encourage innovation, or rather to encourage an increase of efficacy in certain sectors. Nonetheless, those incentives were primarily directed towards the endogenous needs of those sectors, such as lack of labour. Though the political discourse on innovation never changed, the incentive schemes went out of political fashion, which resulted in a period of perceived 'no-policy policy'. The official rhetoric did encourage a need for innovation-supporting programmes, but no programmes for innovation were put in place. Nevertheless, efforts were made to enable public agencies to carry out innovation procurement. Eventually some programmes were established, e.g. VINNOVA, rendering a more engaging or active policy. This development can be explained by the legislators' lack of operative power, they can enable and promote innovation, but they cannot require authorities to actually carry out innovation procurement. The consequence has been that public authorities have often carried out public procurement for innovation in order to cover endogenous needs, but not promoting procurement in general or to cover exogenous needs. Even so, there are several examples where authorities have carried out projects not necessarily covering endogenous needs. One example of this is the Jegrelius Institute for Applied Green Chemistry, which promotes sustainable innovation. It would seem that the Swedish lack of national policy enforcement has led to an increased importance of the regional innovation system with regional drivers for its

development. If this evolution continues, public procurement will hence continue to target intrinsic needs either defined from within the procuring public agency or within the specific sector, which is probably something that will increase chances for success in future procurement projects aiming to render innovation.

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