Using public procurement as a decarbonisation policy: a look at Germany

By Olga Chiappinelli and Vera Zipperer

Public authorities spend large proportions of their GDP on goods and services and are therefore responsible for a significant share of embedded emissions. Given this large impact, governments have the responsibility of decarbonizing their purchases, as well as the potential to influence markets towards sustainability. So-called 'Green Public Procurement' (GPP) consists in the use of environmental criteria in the procurement process. In Germany, Europe's biggest economy, public purchases account for 15 percent of annual GDP. However, despite a rising trend, the use of GPP in public procurement contracts remains marginal. The main barriers to broader implementation is the perception that including environmental criteria leads to higher procurement costs. Further, administrative capacity faces constraints to acquire legal and technical expertise about GPP. A clear political mandate for financing the incremental costs incurred from the environmental impact of procured goods and services, as well as specific training programs for procurement officials can encourage an increased adoption of GPP in the future.

In Germany, public procurement amounts to over 500 billion euros per year. This equates 15 percent of GDP, making it both a paramount economic phenomenon and a central activity of the government.[1] Specifically, government purchases account for 18 percent of total consumption and 11 percent of total investment.[2] In some sectors, public purchasers command a significant share of the market, such as in health (74 percent[3]), education (91 percent[4]), transport infrastructure, telecommunications, and defense (100 percent each). Given this considerable impact, governments can use their purchasing decisions to pursue strategic policy objectives, among which sustainability is a major one.[5]

Green Public Procurement (GPP) describes procurement processes that specify environmental criteria in the call for tenders and thus take into account environmental considerations, such as energy efficiency and the use of low-carbon materials, in the award process.[6] Some examples of GPP purchases are energy-efficient computers and buildings, office furniture from sustainable

1 OECD (2017): Size of public procurement in Government at a glance 2017 (available online, retrieved on November 22nd, 2017. This applies to all other online sources in this report, unless specified otherwise). According to the OECD, public procurement is defined as the sum of (1) intermediate consumption by governments for their own use, (2) gross fixed capital formation, and (3) social transfers in kind via market producers. These figures exclude spending by utility companies and state-owned enterprises.

2 OECD (2017): OECD.stats – National Accounts – National Accounts at a Glance 2017 – General Government and OECD.stats – National Accounts – National Accounts at a Glance – Overview Table. The consumption share is the ratio between the sum of (1) and (3) in footnote 1, and total consumption expenditure in the economy; the investment share is the ratio between (2) in footnote 1, and total investment expenditure in the economy.

3 Calculation based on Statistisches Bundesamt (2015): Health Expenditure (available online).

4 See Eurostat: Total educational expenditure by education level, program orientation and type of source (educ_uoe_fine01) (available online).

5 Other strategic objectives that can be pursued through public procurement are for example innovation, competitiveness and growth, support for small and medium enterprises and gender equality.

6 European Commission (2008): Public Procurement for a better environment. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (available online).

timber, recycled paper, cleaning services using ecologically sound products, low-emission vehicles, and electricity from renewable energy sources.

GPP holds great large potential to decarbonize the economy, also relative to the other decarbonization policies that are currently being implemented or discussed. Current levels of carbon pricing in emission trading schemes are not yet high enough to trigger the changes that are needed for moving towards a low-carbon economy. On the other hand, GPP can have a fast, significant and comprehensive impact. First, GPP offers authorities the option to make purchase decisions based on implicit carbon prices that are higher than the general carbon price, as well as taking into account more environmental impacts than solely carbon emissions. This implies that when buying green products and services, authorities can substantially reduce their own environmental impact. Second, given authorities' large procurement volumes, GPP can create lead markets for climate-friendly options early on, which carbon pricing may struggle to create in the short term. Therefore GPP can provide the industry with credible incentives for adopting and developing green technologies and processes along the whole value chain.[7] Furthermore, like other 'demand-side' innovation policies (e. g. regulations and standards), procurement can provide incentives for industries to innovate without or with limited impact on public spending, which is a key advantage in times of fiscal consolidation.[8] Also, GPP seems politically easier to implement than other forms of carbon pricing, such as a carbon tax. GPP can be implemented at the national and local level without requiring broader political consensus.

Moreover, public authorities have the size and the role to push the public awareness and the political commitment for environmental protection, as well as sustainable consumption and production.[9]

The potential of public procurement as a decarbonization policy is widely acknowledged by key international policy institutions. For example, a target on GPP was included in the United Nations' 2030 Sustainable Development Goals (SDG 12, target 12.7).[10] Though the implementation of GPP is not mandatory (Box 1) and the targets are not binding, the European Commission made GPP one of six policy priorities in its newly published public procurement strategy.[11]

Given the political momentum in Europe, Germany's ambitious emission reduction targets[12] – at risk of being missed if no further action is taken – and in anticipation of the formation of a new government, it is a good time to assess where Germany currently stands in regard to goals and implementation of GPP. This report also examines the barriers to fully unleashing GPP's potential, and proposes policy options to overcome them.

Implementing GPP: going beyond the purchase price by accounting for environmental impacts

In many cases, public procurement contracts are awarded solely on the basis of the purchase price: Using the so-called "lowest price criterion", the cheapest bid is awarded the contract.[13] However, the purchase price only accounts for a portion of the total cost generated by a public purchase (see Figure 1). There are further direct and indirect cost, which should be considered in the procurement process in order to reflect the true costs of a procured good or service.

Regarding direct costs, the public authority will often face post-purchase expenses over the life-time of the object. For example, when procuring the construction of a building, the public authority will not only incur an expenditure for the construction, but will also have to cover the costs during the operational stage of the building (i. e. electricity bills, maintenance works) and the disposal costs at the end of life (i. e. demolition costs). The direct costs of an object over its entire lifetime are often referred to as Total Cost of Ownership (TCO).[14]

Alongside economic benefits, using TCO when awarding procurement contracts, even if not explicitly taking into account environmental criteria that would qualify as green procurement, can have environmental benefits. While sustainable products and services tend to have a higher purchase price than conventional options (e. g., LED lighting compared to incandescent bulbs), they are likely to be cheaper overall when accounting for the costs incurred over the entire life-time, since they have lower

7 UN Environment (2017): Global review of Sustainable Procurement (available online).

8 Veiko Lember, Rainer Kattel, and Tarmo Kalvet (2015): Quo vadis public procurement of innovation, The European Journal of Social Science Research, 28(3), 403–421.

9 Karsten Neuhoff et al. (2017): Innovation and use policies required to realize investment and emission reductions in the materials sector. Policy Design for a Climate-Friendly Materials Sector. Climate Strategies and DIW Berlin (available online).

10 UN Environment (2017), loc.cit.

11 European Commission (2017): Communication from the Commission to the Institutions: Making Public Procurement work in and for Europe (available online).

12 Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (2007): Das integrierte Energie- und Klimaprogramm der Bundesregierung (available online).

13 CEPS and College of Europe (2011): Uptake of Green Public Procurement in the EU 27. Study mandated by the European Commission, DG Environment (available online).

14 CEPS and College of Europe (2011), loc.cit.

Box 1

Regulatory framework for GPP in the EU

The EU sets common rules for the public procurement of contracts which have a reserve price (i. e., the auction's starting value as defined by the purchasing authority) exceeding given thresholds.[1] Regarding the use of environmental considerations in public procurement, two sets of EU Directives are especially important. First, the EU-2004 Directives[2] introduced the option of including environmental considerations in the award procedure, both as award criteria and as technical requirements (e. g., environmental labels). Second, the EU-2014 Directives[3] explicitly introduced the possibility of including the costs imputed to environmental externalities, as part of the concept of life-cycle cost, which allows to take into account all direct and environmental costs of a purchase over the entire life time of a product. Also, the EU-2014 Directives simplified the use of environmental labels and allowed the public authorities to require certain environmental labels without infringing the competition law. The current EU regulation thus provides a regulatory framework for including environmental criteria. However, it neither not mandates the use of GPP nor sets binding targets. Therefore, EU Member States are free to determine the extent to which they implement and use GPP.[4]

Germany implemented the EU-2004 Directives in 2006. The novel EU regulation of 2014 was implemented in 2016.[5] In addition, for contracts below the EU thresholds, national regulations apply. Here are some examples of sector-specific laws which foster sustainability aspects[6]:

- the law to promote the circular economy and environmentally friendly waste management,[7] where environmentally friendly options have to be considered in procurement contracts;
- the administrative directive of the Federal Ministry for Economic Affairs and Energy on the procurement of energy efficient products and services in 2017,[8] which requires the consideration of the highest energy efficiency standards as well as environmental labels in evaluating tender bids;
- a joint decree on the procurement of wood products[9] from 2011, which requires that all wood products are sourced from legal and sustainable wood production.

1 European Commission (2014): Thresholds according to type of procurement under the 2014 directives on concessions, general procurement, and utilities (available online, last retrieved November 13th, 2017)

2 European Commission (2004): Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts (available online); and Directive 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors (available online).

3 European Commission (2014): Directive 2014/24/EU on public procurement and repealing Directive 2004/18/EC (available online); Directive 2014/25/EU on procurement by entities operating in the water, energy, transport, and postal services sectors, and repealing Directive 2004/17/EC (available online).

4 There are, however, some sector specific legislations e. g. requiring certain energy efficiency standards of office IT equipment (EU Regulation No 106/2008 on a Community energy-efficiency labelling programme for office equipment, available online) or road transport vehicles (EU Directive 2009/33/EC on the promotion of clean and energy-efficient road transport vehicles, available online).

5 Bundesregierung (2016): Gesetz zur Modernisierung des Vergaberechts (VergRModG), in: Bundesgesetzblatt Jahrgang 2016, Teil I, Nr. 8; Verordnung zur Modernisierung des Vergaberechts (VergRModVO), in: Bundesgesetzblatt Jahrgang 2016, Teil I, Nr. 16.

6 For a detailed overview of the legal framework of environmentally friendly procurement see Umweltbundesamt (2017): Rechtsgutachten umweltfreundliche öffentliche Beschaffung (available online).

7 Bundesregierung (2012): Gesetz zur Förderung der Kreislaufwirtschaft und Sicherung der umweltverträglichen Bewirtschaftung von Abfällen (Kreislaufwirtschaftsgesetz – KrWG), BGBl. I S. 212. Lastly changed in 2016 by Article 4 of BGBl. I, 569.

8 Bundesregierung (2017): Bundesanzeiger BAnz AT 24.01.2017 B1.

9 Bundesministerium für Ernährung und Landwirtschaft (2010): Gemeinsamer Erlass zur Beschaffung von Holzprodukten (available online).

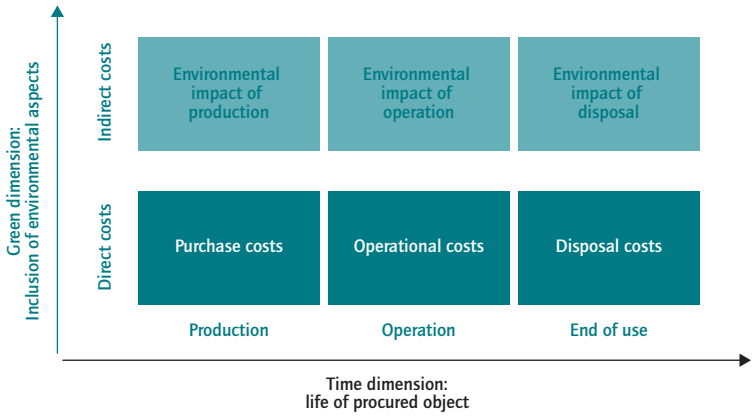
operating costs (for instance because of more efficient energy and fuel use), as well as lower maintenance, conversion, recycling and disposal costs than the business-as-usual option.[15] Looking at TCO instead of the simple purchase price therefore allows the purchaser to choose the offer with the overall lowest direct cost, exploiting potential economic savings over the life-time of a product or infrastructure.

Due to the environmental impact of products (environmental externalities), the purchase will not only generate costs for the purchasing organization but also for society as a whole. For example, the construction of a public building requires materials (e. g., steel and concrete) the

15 European Commission (2009): Collection of Statistical Information on Green Public Procurement in the EU. Report on data collection results by PricewaterhouseCoopers, Ecofys and Significant (available online).

Figure 1

Direct and indirect costs in public procurement



Source: Author's own depiction.

Purchase costs only account for a part of the procured product's total costs incurred over its lifespan.

production of which is energy-intensive, generates greenhouse gas emissions, and thus leads to environmental damage.[16] This environmental impact is not limited to the purchase stage, but often continues for the entire life of the procured object. In a building, for example, the use of energy and fuel during the operational stage will also contribute to emissions, as will the disposal process. Adding the costs of environmental externalities to TCO is commonly referred to as Life-cycle Cost (LCC).[17] Using LCC as basis for procurement decision, is a way to take into account the full social and environmental costs of the purchase. If environmental externalities are reflected, climate-friendly offers are ultimately favored, contributing to the decarbonization of public authorities' purchases.

GPP implementation options

The regulatory framework of the EU and Germany (see Box 1) allows for two GPP implementation options. First, environmental considerations can be specified in the *technical requirements* in the call for tenders. This implies that all bids are required to satisfy certain (minimum) standards or specifications (e. g., on energy efficiency, material use). Second, environmental criteria can be part of the *award criteria*. This approach is possible when the so-called "Most economically advantageous tender" (MEAT) award criterion is used, which allows to consider quality dimensions in the award alongside price. Using the MEAT criterion allows to take both total cost of ownership and environmental considerations into account in the competition. The current EU directives on public procurement actually sets MEAT as the default award criterion, in contrast to the lowest-price criterion. Using the MEAT rather than tender technical requirements allows for flexibility in evaluating different technologies that may be offered with respect to the environmental performance and costs rather than predefining specific technical requirements. A combination of technical requirements and environmental award criteria is also possible.

There are two GPP implementation options with MEAT. The approach used most frequently considers various dimensions of environmental quality as award criteria, such as material use and energy efficiency and allots specific weights to them. The contract is awarded to the bidder that achieves the highest overall "score," i. e. weighted average between the price and quality score (including environmental dimensions). By reducing the weight given to the simple purchase price and increasing the weight given to the environmental quality dimensions, climate-friendly options can be put at an advantage in the competition (see Box 2).

In the second implementation option, environmental quality attributes are fully monetized, discounting the bidders' submitted prices, and the contract is awarded to the bidder with the lowest (fictional) "corrected bidding price". The more environmentally friendly the products or services with respect to business-as-usual alternatives are, the larger the downward adjustment to reach the corrected bidding price. The discount can be significant enough to award contracts to bidders who do not present the lowest bidding price, but whose offer is cheaper once environmental impacts during the production phase and subsequent stages are included.

This second GPP implementation option through MEAT is used for example by the Dutch public infrastructure authority for their infrastructure procurement (see Box 2). This has led to an estimated reduction in the overall emissions produced over the entire life span of the infrastructure—construction, operation, and disposal—of 24 to 50 percent compared to standard tenders.[18]

16 Karsten Neuhoff et al. (2017), loc.cit.

17 European Commission (2014): Directive 2014/24/EU on public procurement and repealing Directive 2004/18/EC (available online); Directive 2014/25/EU on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (available online).

18 These figures refer to seven big infrastructure contracts awarded in 2015 and 2016 by the Dutch Public Infrastructure Authority in the context of the GPP2020 Initiative. See footnote 28 for more information on GPP2020.

Box 2

Examples of GPP implementation in practice: weighted criteria and corrected bidding prices

Example 1. Weighted criteria

The Norwegian Public Roads Administration ran a competition for an energy-efficient and low-emission car ferry to link two villages in the Sognefjord in 2010.[1] The successful bidder would be awarded a ten-year concession contract. All offers were required a minimum 15- to 20-percent improvement in energy efficiency over that of the existing diesel-powered ferry. Bids were evaluated on the basis of the following criteria and weights:

- price (60 percent weight),
- quality (40 percent weight), as the sum of: energy use per passenger car-kilometer (18 percent), total energy use per year (six percent), tons of carbon emitted per year (six percent), kilograms of nitrogen oxides emitted per year (four percent) and innovation (six percent).

The winning consortium offered the world's first electric car ferry.

Example 2. Corrected bidding prices

The Dutch Public Infrastructure Authority (Rijkswaterstaat) represents a best-practice example of triggering decarbonization and sustainable innovation through procurement processes. When awarding contracts for construction and maintenance works, Rijkswaterstaat selects the winner on the basis of both bidding price and quality.[2] Environmental quality is taken into account along two dimensions:

- Assessment of the environmental performance of the tender participant in terms of the overall efforts to reduce CO_2-emissions caused by the firm's activities and processes are considered. This is evaluated with the "CO_2 performance ladder", which rates firms on a scale from one to five, where five corresponds to the highest environmental performance level.
- Environmental performance of the infrastructure design on the basis of Life Cycle Costing (LCC) basis is taken into account. LCC is calculated using "Dubocalc", a tool to assess and monetize the environmental impacts of a design (mostly materials and energy use) over its entire life-time.[3]

The contract is awarded to the bidder with the lowest "corrected bidding price". This fictional bidding price is calculated by taking the official bidding prices minus i) a discount depending on the position of the bidder on the CO_2 performance ladder, where each step on the ladder corresponds to a one percent reduction of the bidding price, and ii) a discount based on the monetized environmental impact of the infrastructure design, where a smaller environmental impact results in a larger discount,[4] and iii) a discount based on other quality dimensions.[5] A cleaner option, with a higher official bidding price than a dirtier alternative, can thus win the tender after the environmental impact is taken into account in the corrected bidding price.

1 The tender is described in detail in: Richard Baron (2016): The Role of Public Procurement in Low-carbon Innovation, Background paper for the 33rd Round Table on Sustainable Development, 12–13 April 2016, OECD Headquarters, Paris (available online).

2 Richard Baron (2016), a. a. O.

3 See website of Dubocalc (available online) for more details.

4 A maximum and minimum value for the environmental impact are defined. The former, corresponding to as business-as-usual design, gets zero discount, while the latter gets maximum discount. For intermediate values of the impact, the lower the value, the higher the discount.

5 Compliance of the winning bidder with CO_2 PL is verified via ex-post certification and the environmental impact of the infrastructure is checked at delivery.

GPP potential is still largely unexploited in Germany

The majority of large-scale public procurement contracts in Germany are concentrated in a small number of sectors. Based on data from the European TED-Database (see Box 3), which only covers tenders that fall under EU directives, contracts for petroleum products and electricity, for construction works, and for transport services, account for almost 65 percent of the volume all public contracts in Germany between 2009 and 2015. Measured by the number of contracts, construction works alone account for 38 percent of the overall volume of public contracts (Figure 2).

Only half of these large public procurement contracts are awarded based on MEAT, the other half are based on the lowest price criterion (Figure 3). Thus, the options for GPP in current procurement procedures are not yet fully exhausted. In terms of monetary values, the share of MEAT awards varies significantly over time. Peak shares of nearly 60 percent in 2010 and more than 70 percent in 2013 indicate that some large-scale procurement contracts indeed involved MEAT criteria.

The usage of environmental criteria for procurement contracts is still very limited in Germany, amounting to 2.4 percent of all public contracts awarded in 2015, suggesting that authorities still underestimate the strategical potential of GPP. The trend has been positive, however, and the number of tenders with environmental criteria has tripled over the last decade. The main driver behind the increase is the growing use of GPP in tenders for services contracts. The number of green service contracts increased almost six-fold from 2009 to 2015 (Figure 4). On the other hand, the use of GPP is particularly low for works (i.e., construction) contracts. While tenders for works accounted for almost 30 percent of all tenders in 2015 (both in terms of number of contracts and in terms of value contracted), only 1.3 percent of the volume of work awards considered environmental criteria.

While GPP is used in almost every category of procured goods, works and services,[19] only four product categories account for more than two thirds of tenders that adopted green criteria: office and computing machinery; transport equipment; sewage, refuse and cleaning services and architectural, construction and engineering services (Figure 5). In terms of volume contracted, office and computing machinery come first, followed by construction work, and transport equipment. Box 4 describes two examples of GPP in Germany in more detail.

Remaining obstacles and policy recommendations

Despite GPP's large potential as a decarbonization policy, actual data shows that the uptake in Germany to date is low. This is due to a number of challenges and barriers. These are typically more pronounced at the local level, which is particularly relevant as it is where most of the procurement takes place (80 percent in Germany).[20]

The most important barrier to a widespread use of GPP is the perception that green products and services are more costly than standard ones.[21] In light of the expectation that public authorities use financial resources sparingly, this poses a big concern to procurement officers. This is especially true at the local level because of tighter budget constraints and a higher reluctance to stress the tax base. While the purchase price for environmentally friendly products and services is indeed often higher than for business-as-usual options—for instance, LED bulbs against standard ones—taking into account the costs over the entire life-time (TCO), however, the green alternatives can actually be cheaper.[22] Procurement procedures should thus to a greater degree include costs

Box 3

Data and methodology

The Tenders Electronic Daily (TED) database[1] contains public procurement data for the European Economic Area plus Switzerland for 2006 until 2016. Contracting authorities are required to publish the contract notices (i.e. calls for tenders) as well as the award notices of contracts above the EU relevant thresholds[2] on the TED website, which is the official online version of the Supplement to the Official Journal of the European Union (OJEU).[3] The dataset offers information on the contracting authority, the winning firm, the object of the contract, the award value, the award procedure and criteria, and more.

The analysis in this report only considers a subset of the TED database, namely data on public procurement awards in Germany from 2009 until 2015. In total, this subset amounts to 103,968 awards. Awards were coded as being 'GPP' awards if an environmental criterion was present among the award criteria.[4] As the data are based on award documents, this analysis explicitly only takes into account environmental criteria specified in the award criteria and not in the technical requirements of the call for tenders. This is one of the reasons why the GPP shares presented in this analysis are likely to be lower bounds of the actual GPP usage. The second reason is that the analysis only considers procurement contracts above the EU thresholds, which represent only a subset of all procurement in Germany.

1 European Union (2017): TED Database (available online, dataset retrieved April 4th, 2017)

2 EU thresholds for publishing calls for tenders vary over time and with respect to the type of contracting authorities (central vs. local government) and the type of contract. For example, for the central government, work contracts with a value of 5.225.000 Euros and upwards have to be published EU-wide (threshold applying in 2017). For more details see the Europa.eu website (available online).

3 European Union (2017): TED website (availbale online, last retrieved November 13th, 2017).

4 This information was extracted on the basis of a keywords search on the text-based information on award criteria present in the data.

19 In four out of 45 object categories, GPP was not used at all from 2009 to 2015.

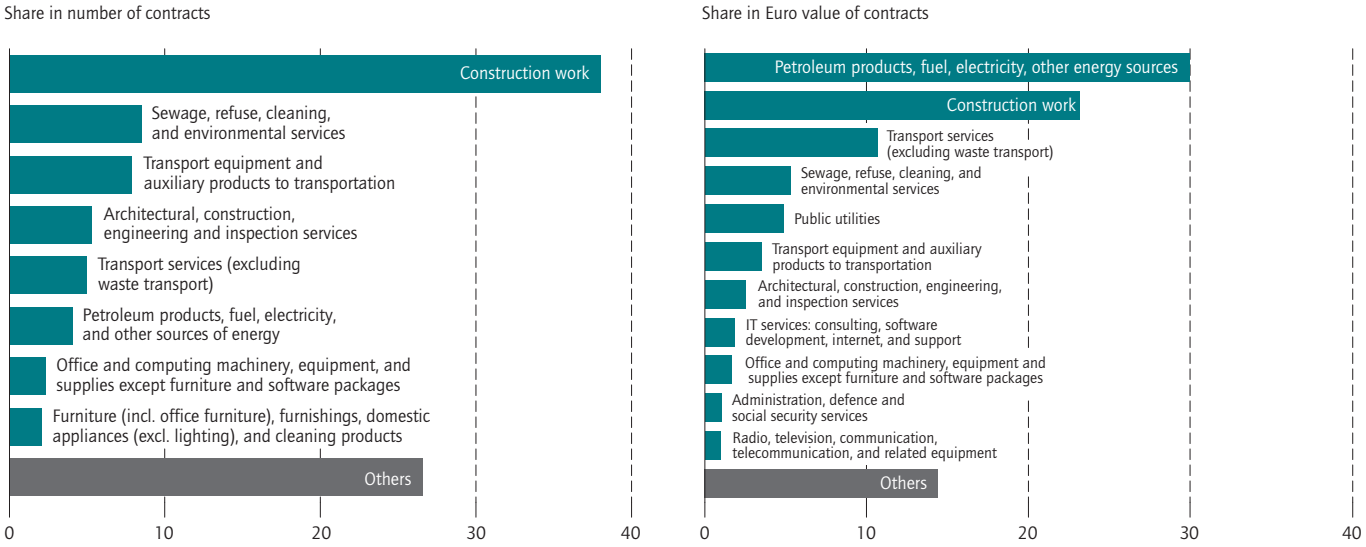
20 OECD (2011): Size of public procurement market—Government at a Glance 2011 (available online).

21 Marteen Bouwer et al. (2006): Green Public Procurement in Europe 2006—Conclusions and recommendations. Virage Milieu & Management (available online).

22 Gröger, Jens, Stratmann, Britta, Brommer, Eva (2015): Umwelt- und Kostenentlastung durch eine umweltverträgliche Beschaffung, im Auftrag der Senatsverwaltung für Stadtentwicklung und Umwelt Berlin, Öko-Institut e.V. Freiburg/Berlin.

Figure 2

Share of product categories in total public procurement, in Germany (2009–2015)
In percent



Note: Data shown uses the macro-level categorization of the Common Procurement Vocabulary (CPV). The Common Procurement Vocabulary (CPV) was developed by the EU in order to provide a classification system for procurement contracts and facilitate the description of the objects of procurement for public authorities. The first two digits of the eight-digit CPV code indicate a macro category of the objects. The rest of the code provides more details on the object (e.g., 45,000,000 indicates the macro category "Construction works", 45,100,000 "Site preparation work", 45,110,000 "Building demolition and wrecking work and earth-moving work" and so forth with increasing detail. For more details on the CPV coding, see EU Commission Regulation (EC) No 213/2008.

Source: Authors' own calculations based on data from EU TED-database (available online).

Only a few procurement object categories account for the vast majority of contracts.

that go beyond the mere purchase price and reflect ulterior costs as well.

Furthermore, local purchasing authorities typically have no incentive for considering the social costs of the purchase decisions they make. To push the willingness to implement GPP at the local level, specific funding arrangements should be designed, whereby the central government—the federal level, in the case of Germany—, covers the incremental costs of GPP. A more extensive use of GPP requires a clear commitment by the central government and a clear governance structure ensuring consistency among all government levels such that the national climate objectives have influence on individual procurement choices.

Another obstacle is that GPP is perceived to reduce the number of bidders in the competition, thereby leading to a further increase in the purchase price. A priori, such a negative effect on competition is not clear, however. Adopting green criteria may in fact encourage the participation of more innovative firms because they could have a competitive advantage in a competition that not only considers price.[23] GPP may therefore both attract participation and level the playing field for the competition.

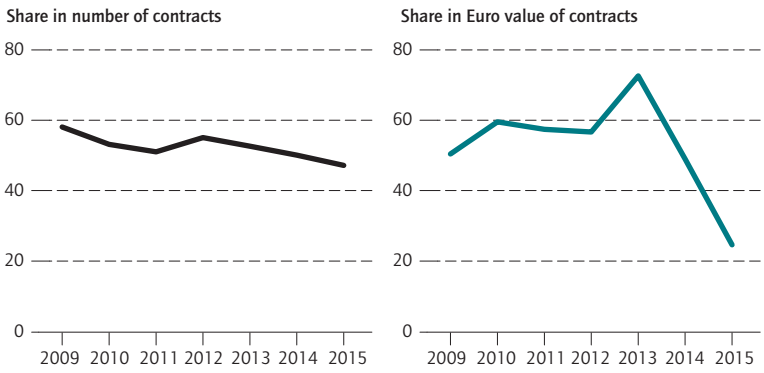
Administrative capacity constraints are also a relevant barrier. Especially at the local level, procurement teams are often small and officials lack both technical and legal expertise needed for the implementation of GPP, regarding technical details and environmental impact of a product or service, for instance. Moreover, GPP is perceived as time-consuming, a delay in acquiring of necessary goods and services that adds to the overall complexity of an activity that is already seen as complicated and overly bureaucratic. Due to structural and financial constraints, public authorities, especially at the local level, are often not in a position to hire extra trained staff. More specific training courses for procurement officials, such as those

23 Runar Brännlund, Sofia Lundberg, and Per-Olov Marklund (2009): Assessment of Green Public Procurement as a Policy Tool: Cost-efficiency and Competition Considerations. Umeå Economic Studies 775, Umeå University, Department of Economics, revised 25 Jan 2010.

Figure 3

Share of tenders using MEAT in total public procurement in Germany (2009–2015)

In percent



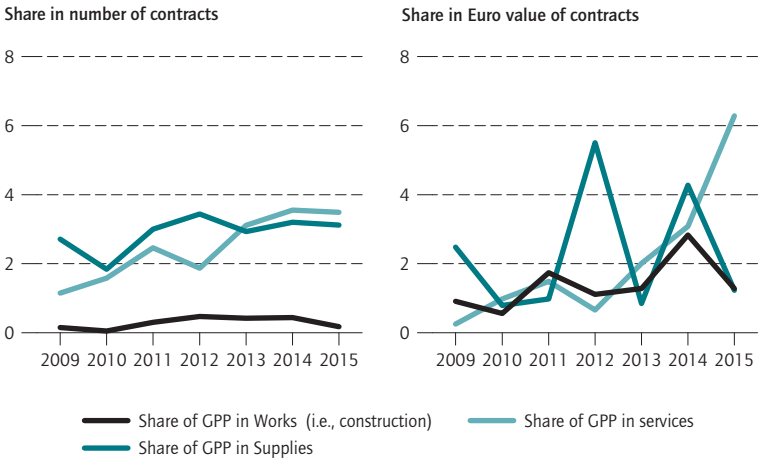
Source: Authors' own calculations based on data from EU TED-database (available online).

Only half of the contracts procured in Germany use additional criteria other than the price in the award procedure.

Figure 4

GPP share according to different types of contracts in Germany (2009–2015)

In percent



Source: Authors' own calculation based on data from EU TED-database (available online).

Green public procurement is heavily underused with take-up rates between almost zero and three percent depending on the type of contract.

provided by the Competence Centre for Sustainable Procurement (*Kompetenzstelle für nachhaltige Beschaffung beim Beschaffungsamt des Bundesministeriums des Innern (KNB)*), would improve both professionalization of and commitment to GPP, and would facilitate its systematic implementation.[24] The publication of relevant handbooks to evaluate environmental criteria, as the EU has started to produce on some products,[25] would further facilitate the implementation. At both national and European levels (for large tenders), a regulatory framework for these guidelines and product evaluation criteria could lead to higher confidence in using GPP as well.

Strengthening the communication and coordination between authorities is also proven to foster a broader implementation of GPP. The establishment of multi-stakeholder collaboration and knowledge-sharing platforms (also including the private sector) at local, national and international level seems promising. A good-practice example here is the European GPP2020 initiative, which aims to establish green procurement practices at the EU level.[26] Coordinating efforts is particularly valuable at the local level, for instance with the establishment of networks of municipalities that implement joint procurement, as practiced by the German Association of Cities (Box 4). This allows to aggregate demand (e. g., at the central/federal level), thereby allowing public authorities to reap benefits from suppliers' economies of scale, while reaching the size, information and professionalism needed to unlock the opportunities mentioned above.

Going beyond the actual procurement process, there is a lack of standards and practices for monitoring and evaluating compliance in the contract implementation, as well as practices and standards on measuring and reporting the outcomes of GPP. It is important that such standards are established at both the national and the EU level. Appointing an independent institution to conduct random checks on compliance could guarantee the transparency of the procurement process including the implementation stage.

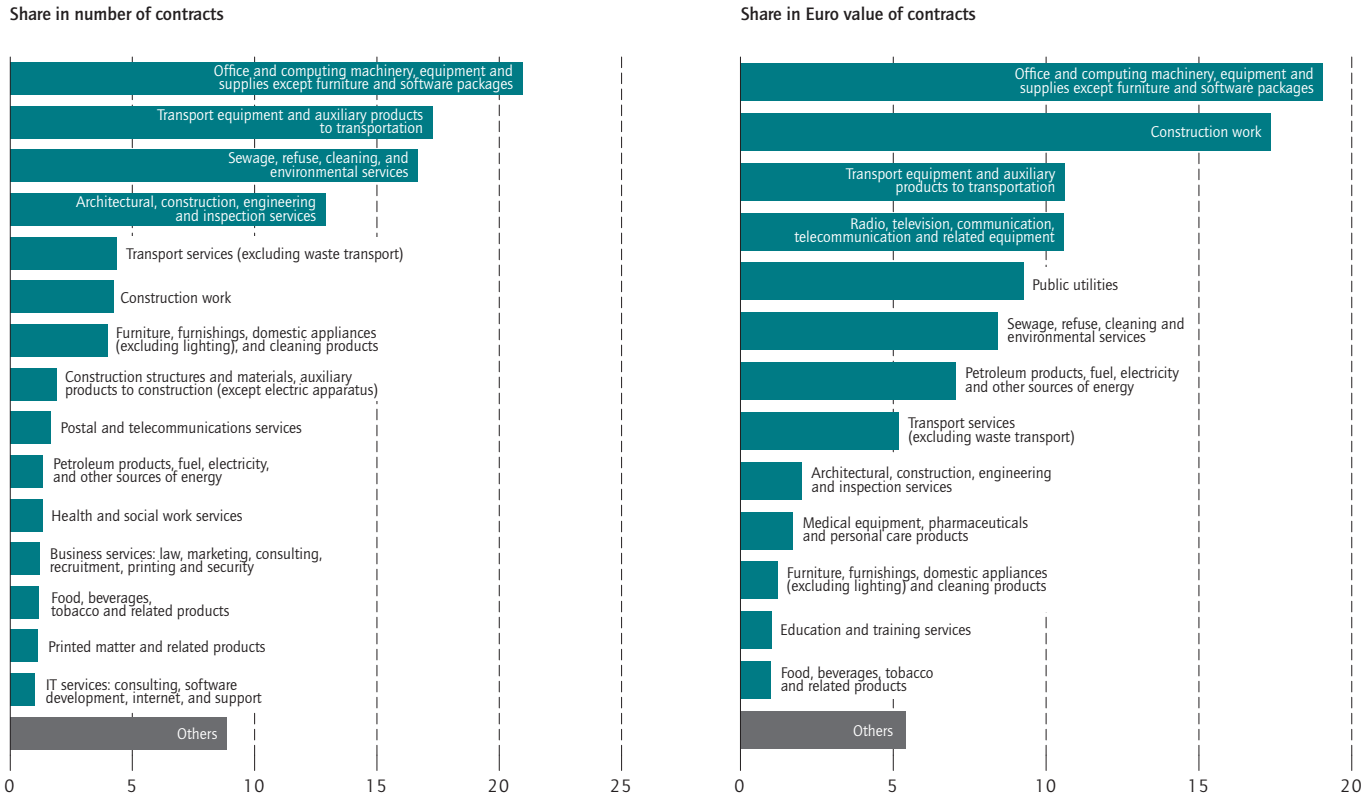
24 Additional information on the experience of KNB in the context of the GPP 2020 project (e. g., for the procurement of thin clients, industrial dishwashers and printers) can be found at the Nachhaltige-Beschaffung.info (available online).

25 For example: European Commission (2017): EU Green Public Procurement criteria. DG Environment (available online).

26 A consortium of eight European countries, among which the Netherlands and Germany, aim at pushing GPP activities by conducting more than 100 environmentally friendly public procurement tenders, directly reducing CO_2 emissions, conducting training- and networking sessions on the subject of GPP, and extending support structures such as helpdesks in the partner countries.

Figure 5

Share of product categories in green public procurement, in Germany (2009–2015)
In percent



Source: Authors' calculation based on data from EU TED-database (available online).

Green public procurement is used in almost all product categories.

Conclusion: a political commitment to green public procurement can help Germany achieve its emission reduction targets

Germany needs to act quickly if it wants to live up to its 2020 emission reduction targets. The decarbonization policies currently in place are not sufficient to drive the changes that are needed towards a low-carbon economy. Given the large volumes of government purchases, green public procurement offers a significant potential for steering public money into climate-friendly products and services and reducing emissions. By choosing environmentally friendly goods and services in the areas where public authorities are important buyers, public purchasers can have both a direct and indirect effect in helping driving markets towards sustainability. A broader use of GPP, which is currently being implemented only in homeopathic doses, is thus one option to reduce Germany's carbon footprint.

There is a discrepancy between the German government's climate goals and the incentives at the local level, where most of the procurement activity takes place but where the budget constraints are the tightest. More extensive use of GPP therefore requires a clear political mandate that makes climate goals relevant at all levels and providing it with adequate earmarked funding locally, for instance through dedicated transfers from the federal level.

A successful implementation of GPP further requires adequate capacity building. In particular, procurement officers have to be trained to implement GPP and further tools have to be developed to make the practice of GPP as easy and time-efficient as possible. Single initiatives and projects, put in place by various municipalities or organizations in Germany but also abroad, for instance in the Netherlands, can serve as best-practice examples.

Box 4

Two examples of GPP from Germany

Use of recycled concrete in new public construction projects in the State of Berlin[1]

In order to reduce the environmental impact of construction, the City-State of Berlin has required the use of recycled concrete in a number of public construction projects. This includes the recent construction of the Berlin Institute for Medical System's new laboratory building at the Max-Dellbrück-Centre for Molecular Medicine, which started in 2015. This project has proven that recycled concrete can be of high quality as well as meet all necessary standards (such as strength, class and consistency) and require no special or additional handling during installation. As a result, the State of Berlin will require the use of recycled concrete in all its future public high-rise construction projects. This will replace around 100,000 m^3 of standard concrete per year.

Joint procurement of 100 % recycled copying paper in the City of Erlangen[2].

Erlangen is part of a joint initiative for the procurement of recycled paper organized by the German Municipal Purchasers Group (Einkaufsgemeinschaft Kommunaler Verwaltungen eG), which is coordinated by the German Association of Cities (Deutscher Städtetag). This joint procurement allows (especially small) local authorities to coordinate their efforts and to reach the size and the expertise needed to implement GPP optimally. Since 2013 all municipal departments in the City of Erlangen are required to only use 100 percent recycled paper for their office needs. The annual environmental savings are estimated at 12.03 tonnes of CO_2, 2,191,093 litres of water and 451,234 kWh in energy.[3]

1 European Commission (2017): GPP in practice – "Using recycled concrete in the construction of new buildings State of Berlin", Case study, Issue no. 75.

2 European Commission (2017): GPP in practice – "Joint Procurement of 100 % recycled copying paper in the Municipality of Erlangen", Case study, Issue No. 71.

3 Calculations were made using the Pro Recycling Paper (IPR) Sustainability Calculation tool and based on the annual consumption (from 2013) of 13.85 million sheets of Blue Angel certified 100 percent A4-sized recycled paper.

Olga Chiappinelli is a Research Associate in the Climate Policy department at DIW Berlin | ochiappinelli@diw.de

Vera Zipperer is a Research Associate in the Climate Policy department at DIW Berlin | vzipperer@diw.de

JEL: H50, H57, Q58

Keywords: Green public procurement, government spending, carbon footprint, environmental policies

The authors are grateful for financial support from the Mistra Research Program CARBON EXIT. The views and opinions expressed in this publication do not necessarily reflect the views of Mistra.

DIW BERLIN

DIW Berlin — Deutsches Institut
für Wirtschaftsforschung e. V.
Mohrenstraße 58, 10117 Berlin
T +49 30 897 89 -0
F +49 30 897 89 -200

Publishers
Prof. Dr. Tomaso Duso
Dr. Ferdinand Fichtner
Prof. Marcel Fratzscher, Ph.D.
Prof. Dr. Peter Haan
Prof. Dr. Claudia Kemfert
Prof. Dr. Lukas Menkhoff
Prof. Johanna Mollerstrom, Ph.D.
Prof. Karsten Neuhoff, Ph.D.
Prof. Dr. Jürgen Schupp
Prof. Dr. C. Katharina Spieß
Prof. Dr. Gert G. Wagner

Reviewer
Sascha Drahs
Dr. Isabel Teichmann
Prof. Dr. Dorothea Schäfer

Editors in chief
Dr. Gritje Hartmann
Mathilde Richter
Dr. Wolf-Peter Schill

Editorial staff
Renate Bogdanovic
Dr. Franziska Bremus
Rebecca Buhner
Claudia Cohnen-Beck
Prof. Dr. Christian Dreger
Dr. Daniel Kemptner
Sebastian Kollmann
Matthias Laugwitz
Markus Reiniger
Dr. Alexander Zerrahn

Layout and Composition
Satz-Rechen-Zentrum, Berlin

Sale and distribution
DIW Berlin
ISSN 2192-7219