TECH FOR NET ZERO ALLIANZ

Green Public Procurement

Stimulating climate-neutral demand for a competitive EU net zero economy: A case study of Germany

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Deutsche Energie-Agentur

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Executive Summary

Green Public Procurement is a key measure to stimulate green demand for a competitive EU net-zero economy. Green Public procurement (GPP) is an effective way to strengthen Europe's competitiveness and accelerate the transition to net zero economy. By stimulating demand in a cost-effective way, GPP is crucial to secure the EU's industrial leadership in the fast-growing sector of CO2-neutral technologies. This is precisely the goal of the European Commission's Green Deal Industrial Plan (GDIP). The focus of GPP needs to be on realizing the highest benefit across the life cycle of products, both from a climate and financial perspective. GPP is addressed at all governance levels, from municipal, regional, national to European. While in many cases targets already exist, the implementation of GGP practices needs to accelerate. This is a huge opportunity for the European Union to lead by example and send strong market signals to stimulate green demand for a competitive EU economy.

For a strong net zero contribution of public procurement procedures, the focus needs to be on greenhouse gas emissions. In Germany alone, the public sector awards contracts worth around €500 billion a year – from major construction projects, to local public transport buses, to pencils used in town hall offices. This represents around 13 percent of total spending by federal, state and local governments. For some individual sectors, the public sector is its largest client – construction, for example. Such formidable buying power can be strategically harnessed to reduce harmful greenhouse gas emissions and provide targeted support for the commercialization of innovative, climate-friendly products and technologies. Hence, CO2-equivanelnce and lifecycle carbon emissions should be the two central benchmarks for evaluating the net zero contribution of procurement. While security of supply criteria may be taken into account, they should not outweigh the greenhouse gas emission reduction potential of procurement.

The EU has a crucial role to play in supporting the implementation of impactful GPP practices at national level. While GPP is increasingly seen as a key policy tool to meet climate targets, the implementation remains very fragmented due to the complexity of public procurement. Despite a long list of tools, criteria and good examples, current practices fail to systematically harness the tremendous potential that GPP can offer to accelerate the decarbonization of different sectors.
At the national, regional, and municipal levels, bridging the gap between stated procurement targets and the implementation of GPP practices presents a significant opportunity for the public sector to set an example and send strong market signals that industrial sectors must safeguard their decarbonization efforts. Through standardized reporting methods, tools, and sectoral mandatory requirements, the EU can play a crucial role in facilitating the implementation of impactful GPP practices.

This paper zooms into the German case, but measures for implementation can be used for other member states as well.

Urgent measures for implementation

A carbon footprint analysis should be a central factor for tenders. This will help expand procurement opportunities for climate-neutral goods and services. Taking CO_2 into account ensures awards are made transparently and with metrics directly tied to climate targets. For procurement offices, this reduces uncertainties and curtails administrative burdens. Procurement processes prioritizing climate impact can be further simplified by pre-certifying the GHG-reduction potential of certain products and materials on the supply side. This ensures awards are granted via an efficient, legally sound process.

Successfully implementing climate-neutral procurement requires three key elements:

- CO_2-equivanelnce and lifecycle carbon emissions should be the two central benchmarks for evaluating procurement.
- Include innovative climate technologies being developed at start-ups and SMEs in the procurement process.
- Simplify climate-neutral contracting via a standardized climate certification that can be applied to products and materials in emissions-intensive industries, especially construction.

Effective climate-neutral public procurement has a triple bottom-line. First, it reduces the government's direct carbon footprint. Second, increased demand spurs more innovation and competition, thus lowering costs for climate technologies (i.e., reducing the “green premium”). Third, climate-neutral public procurement can strengthen and prolong countries’ hold on companies and innovators who are leading the world in climate tech R&D and commercialization.

Recommendations

- Establish CO2 as the central benchmark for evaluating climate-neutral bids in award processes. For larger projects, selection should consider a lifecycle carbon analysis in accordance with real carbon prices.
- Explicitly invite SMEs and start-ups to the award process so more innovative climate technologies can be considered.
- Simplify procurement processes by “climate-certifying” goods, services and construction materials.
- Introduce clear reporting and transparency mechanisms to monitor and measure public procurement’s carbon footprint. Also: establish firm climate targets for procurement.
- Carbon-neutral public procurement should first and foremost be prioritized for the construction sector, followed immediately by other sectors with relatively high greenhouse gas emissions.
- Embed standardized reporting methods, mandatory sectoral requirements, and product-specific carbon baselines at the European Union level so the bloc can effectively support implementation of sound public procurement practices.

Case study - Zooming into climate neutral public procurement in Germany

1. Start-up strategy: more innovation through climate-neutral procurement

For the first time, the German government's start-up strategy is aimed at market ramp-up of innovative climate technologies via climate-neutral public procurement. The German government's start-up strategy, adopted in 2022, for the first time recognizes public procurement's potential as a driver for innovation in climate technologies. The new strategy seeks to leverage the power of public procurement to tap into start-ups' unique competencies and characteristics so that their innovative technologies and processes are able to penetrate the public sector. As the strategy shows, integrating start-ups into climate-neutral public procurement processes can help governments achieve climate targets more quickly. At the same time, many of the innovative solutions that federal, state and local governments need for their climate-neutral procurement initiatives are available via partnerships with climate tech start-ups. Yet so far, this potential has remained largely untapped.

Many climate tech startups deploy the latest science. Climate tech start-ups are companies that develop new, technical climate solutions based on scientific breakthroughs and discoveries. Their impact and added value for society extend beyond commercial goals, and the degree to which innovation is incorporated into their business is comparatively high. Many climate tech startups have commercialized groundbreaking, cutting-edge technologies for reducing emissions, often developed through years of intensive research. This is because climate tech solutions are created when science meets technology; for example, when researchers transfer their knowledge and expertise from chemistry, physics or engineering into emissions-reducing processes, products and equipment. Climate tech solutions are mostly developed for commercial customers (business-to-business, or B2B) with a high carbon footprint who want to decarbonize their value chain.

Cutting-edge climate tech research can be fertile ground for major new technological breakthroughs. Throughout Germany, numerous climate solutions are already being developed at research institutes and by technology start-ups. In addition to application fields like photovoltaics, these include novel energy storage systems; electrified drive systems; green hydrogen and synthetic fuels; alternative construction and packaging materials; and various forms of carbon sinks. Many of these climate technologies are already technically mature and now only need to be scaled up. Their market

ramp-up can create a large number of highly skilled jobs as well as export opportunities, while also slashing carbon emissions.

Climate-neutral RFPs stimulate demand; they are among the most effective and least costly subsidy tools for industrial transformation. Demand stimulation is often considered more effective than traditional subsidies to industry for several economic reasons.[1] First, increased demand promotes market competition, which can lower prices. Increased demand can also encourage development of new technologies, improving competitiveness. Through the clear market signal of demand stimulation the transparency for all market participants can be increased as well. By contrast, traditional supply-side industry subsidies can distort markets, especially if they lack strategic focus. This can result in overproduction and reduced competition. Supply-side subsidies can also be costly, as they require a significant investment of tax revenues but they neither increase innovation nor do they reduce costs – two prerequisites for industrial transformation.

By strategically working with climate tech startups, Germany's federal, state and local governments can quickly and efficiently reduce their own carbon footprints while promoting innovation and technology. Since the Paris climate targets were adopted, targeted R&D investments in have helped develop new climate technologies. While federal- and state-level funding programs strengthen the supply side, they have not yet effectively activated the demand side. For new technologies to scale up in the market, however, demand stimulus is essential. In the construction sector in particular, innovative climate technologies can be scaled more quickly through climate-neutral tenders. This is because public demand for carbon-neutral products sends a clear signal to the market, which can help boost private investments in manufacturing more climate-neutral products and materials.

[1] See Van den Heuvel and Popp (2022), The role of Venture Capital and Governments in Clean Energy: Lessons from the First Cleantech Bubble. National Bureau of Economic Research, Cambridge, MA, NBER working paper w29919.

What is climate-neutral public procurement?

Climate-neutral public procurement refers to government purchases of goods and services that can help fight climate change.[2] This can be achieved in a variety of ways, including procuring goods and services from suppliers who have low carbon footprints and who prioritize sustainable practices (i.e., using innovative climate technologies, relying on climate-neutral materials, using renewable energy, minimizing emissions through energy efficiency and electric vehicles, etc.).

Carbon offsetting is often recommended to account for the remaining emissions of procurement activities. This can be achieved by supporting activities such as verified reforestation projects, purchasing carbon credits, or via other emission-reduction projects.

A decisive factor in assessing an individual supplier's climate neutrality is the lifecycle analysis. This accounts for the entire lifecycle of the procured goods and services, from production to disposal; at each stage, the carbon footprint should be minimized to the furthest extent possible.

The goal of climate-neutral public procurement is to support the transition to a low-carbon economy by reducing the carbon footprint of procurement activities. By prioritizing sustainable procurement through legislation, Germany's federal, state and local governments can lead by example and dramatically increase demand for climate-neutral goods and services.

The start-up strategy enables climate tech start-ups in particular to win public tenders, either directly or as part of a consortium. Participating in public tenders can help highly innovative climate tech startups clear crucial hurdles that can allow them to penetrate the market and scale up. Winning new contracts also opens other opportunities. For example, these contracts can help increase a start-up's visibility, enhance its credibility and also improve its prospects for future funding rounds. To improve the likelihood climate tech startups are awarded public tenders, they can enter into a consortium partnership with an emissions-intensive industrial player. Through so-called offtake agreements from major customers, young startups can help bring innovative, competitive solutions to market and demonstrate their expertise in decarbonization. In addition, such consortiums can take advantage of government funding and support programs to further develop products and services in real-world environments.

[2] Federal Environment Agency, topic area on green procurement. URL: https://www.umweltbundesamt.de/themen/wirtschaft-konsum/umweltfreundliche-beschaffung.

The start-up strategy's clear commitment to climate neutrality can help quickly scale up new innovations. In turn, this can hasten the energy and transport transitions. In the current legislative session, the German government is working to quickly implement start-up strategy measures within existing budget and financial planning frameworks. At least once a year, the start-up strategy's progress will be reviewed with relevant stakeholders. These assessments are important. They can help ensure the strategy is implemented effectively. The assessments can also help further develop and enhance future climate-neutral tenders.

2. Unlocking potential: Procurement by the federal government, states and municipalities

Climate-neutral procurement by the public sector can enable the construction industry and other emissions-intensive sectors to meet their climate targets in the shortest-possible time. Every year, public contracts worth around €500 billion are awarded in the Federal Republic of Germany. This corresponds to just under 15 percent of annual Gross Domestic Product. Almost one in six euros spent by public bodies in Germany is spent on public contracts. In some sectors, the proportion is even higher – with the construction industry topping them all. Public procurement's role in helping the state drive innovation and advance sustainability has long been recognized; however, this lever has hardly ever been used. In construction in particular, there is major untapped potential to rapidly accelerate market ramp-up of climate-neutral building materials. With a few straightforward requirements, federal and state governments can create the frameworks needed to accelerate this ramp-up.

"Almost one in six euros spent by public bodies in Germany is spent on public contracts. In some sectors, the proportion is even higher – with the construction industry topping them all."

Public contracts are critical to Germany's economy. In sectors like construction and heavy industry, the public sector is one of the biggest customers. Due to the large number of public contracts in several key sectors, the government is responsible for a significant amount of market demand. The most important sectors include building construction, civil engineering, energy and heavy industry. In the construction industry, the state is the biggest client and it commissions a staggering one-third of all construction projects in Germany. These are put out to tender and awarded by approximately 30,000 different public contracting authorities.

The building construction, civil engineering, energy and heavy industrial sectors all have high greenhouse gas emissions that currently fail to meet the German government's climate targets. For example, carbon emissions from the construction and use of buildings are responsible for more than 30 percent of all emissions in Germany.[3] Using climate-neutral building materials and energy-efficient construction practices with better insulation and windows could slash these emissions by more than half. There is also considerable potential for emissions reductions in supplying electricity and heat. This also holds true for municipal vehicle fleets – buses, fire engines, ambulances, police vehicles, garbage collection trucks, etc. – as well as heavy industries like steel, cement and basic chemicals, all which often rely on outdated technology due to high acquisition costs for modern, energy-efficient equipment and machinery. This leads to unavoidable emissions not being captured.

High greenhouse gas emissions stemming from public procurement in Germany underscores the urgent need to introduce procurement processes that are climate-friendly. Although the federal government is obliged by the Climate Protection Act and the Federal Constitutional Court to comply with climate targets, reliable data on greenhouse gas emissions from public tenders is sorely lacking. What few reliable estimates exist are incomplete or long outdated. For example, some important sectors and goods are completely absent in the record. One of the few available estimates assumes around 125 million tons of CO_2e per year. This corresponds to around 12 percent of Germany's overall greenhouse gas emissions.[4]

Public procurement can create and influence markets in many industries. As such, it has serious potential to help Germany achieve its climate targets. Decarbonizing industry requires innovative products and production processes that do not lead to carbon emissions, and many of these technologies are already widely known. However, many cannot yet be deployed competitively.[5] The result is low demand for innovative, low-carbon technologies and stalled climate progress in too many industries. Leveraging the potential of public procurement to dramatically increase demand for new, innovative, clean technologies can play a central role in decarbonizing industry. By taking climate neutrality into account in public tenders, the state can influence climate technologies' deployment and market ramp-up. Unfortunately, this simple solution is not yet widely utilized in Germany today.

[3] Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) (2020), Umweltfußabdruck von Gebäuden in Deutschland. URL: https://www.bbsr.bund.de/BBSR/DE/veroeffentlichungen/bbsr-online/2020/bbsr-online-17-2020-dl.pdf?__blob=publicationFile&v=3.
[4] DIW Weekly Report No. 51 + 52/2019.
[5] Capgemini Report (2021), URL: BMWK https://www.bmwk.de/Redaktion/DE/Schlaglichter-der-Wirtschaftspolitik/2022/08/04-im-fokus.html.

Public tenders with high carbon emissions

The state procures a wide range of goods and services with very high greenhouse gas emissions, especially in construction, energy and heavy industry.[6]

This includes construction and civil engineering projects for schools, universities, hospitals, administrative buildings, rail lines, bridges, tunnels and roads and highways. This also includes the electricity and gas supplies required for all public buildings – ministries, administrative offices, military barracks, hospitals, schools, libraries, museums, etc.

From heavy industry, the state buys construction materials like steel and concrete which have very high emissions. The state also purchases equipment like machinery for public works projects; energy and power equipment like turbines, generators, and transformers; transportation equipment like trains, buses and ships; defense equipment like weapons, vehicles, and communications systems; and many other industrial goods and supplies.

3. Germany can be a hotbed for cleantech job growth

Economic growth and climate action go hand-in-hand. Decarbonizing every sector of Germany's economy in line with climate targets is a mammoth task requiring inventiveness, courage and the kind of decisive, disruptive change that can only be unleashed by the climate tech sector. Many challenges to achieving climate neutrality must be solved by innovations at early stages of development, so it's essential to create frameworks that can enable innovative climate technologies to penetrate the market. Those same frameworks must also then accelerate the scale-up of clean technologies.

Climate-neutral procurement can help create jobs and solidify Germany's status as a technology hub for Europe. Public procurement influences job creation in various ways. In addition to directly creating jobs, public procurement can spur new companies to start up and existing companies to expand. Prioritizing the public procurement of carbon-neutral products can help create new jobs in areas like renewable energy, green transportation and sustainable agriculture. Green procurement can further influence the labor market via government-sponsored qualification and training initiatives.

[6] Federal Institute for Research on Building, Urban Affairs and Spatial Development (BBSR) (2020), Umweltfußabdruck von Gebäuden in Deutschland, URL: https://www.bbsr.bund.de/BBSR/DE/veroeffentlichungen/bbsr-online/2020/bbsr-online-17-2020-dl.pdf?__blob=publicationFile&v=3.

Promoting innovation by involving small businesses and start-ups. By creating a level playing field and opening opportunities for SMEs, public procurement fosters entrepreneurship. This not only promotes job creation and economic growth, it also boosts entire industries that have sustainability at their core.

Advancing climate technologies through climate-neutral public tenders not only helps the climate, our energy systems and the economy – it also reduces costs for municipalities, states and the federal government. When long-term cost-benefit accounting is considered, it's clear many climate technologies boost the bottom line. If climate change costs are considered over the lifecycle of a procurement, climate technologies have greater cost-benefit ratios than their fossil-based counterparts. Taking climate into account in public procurement meets public procurement requirements. It should be applied universally.

Germany must establish a robust innovation pipeline to commercialize the climate technologies we need in time to avoid a climate disaster. Focus should be on technologies in the diffusion phase as well as those in the scaling and research phase. . This requires a broad-based approach to technology policy that creates a suitable regulatory framework, uses funding instruments in a targeted manner, provides the necessary infrastructure and supports commercialization by entrepreneurs. Many challenges on the road to climate neutrality can only be solved with innovations still at the early stages of development. To achieve ambitious climate targets, it is essential to create frameworks that enable climate technologies to more quickly penetrate the market, then expand their market share. Only by coordinating the rollout and application of different measures can we ensure a climate-neutral Germany that can act as an inspiration for Europe and beyond.

4. Climate-neutral public procurement in practice

Legal framework

In addition to federal laws, public procurement law is largely influenced by European requirements and guidelines, as well as additional state guidelines for specific sectors. The most important legal frameworks for public procurement include: the EU Procurement Directive (2014/24/EU); the Act against Restraints of Competition (GWB); the Public Procurement Ordinance (VgV); and the Subthreshold Procurement Ordinance (UVgO). For certain sectors with a high number of awarded public contracts and complex market structures (i.e., transport, drinking water and energy supply), additional sectoral

regulations apply.[7] There can also be numerous state-level requirements. If climate-neutral goods and commodities are not explicitly required in contracts, data on lifecycle emissions can help to properly evaluate bids since it's a crucial metric for fully accounting for the climate costs of goods and materials produced using fossil fuels.

The legal framework for innovation- and climate-friendly public procurement has already been available for years, but it is optional in most sectors. Directives 2014/23/EU, 2014/24/EU and 2014/25/EU have comprehensively strengthened the inclusion of strategic objectives in procurement. Social, environmental or innovative (sustainable) aspects can be included at every stage of a procedure, from the definition of the service to the determination of suitability and award criteria to the specification of performance conditions. Beyond these provisions, the EU rarely sets binding requirements that truly push innovation- and climate-friendly public procurement. An example for a binding provision is the Clean Vehicles Directive which sets targets for each EU country that ensure a minimum percentage of the total number road vehicles they purchase through government procurement programs are clean and energy-efficient. Moreover, the Energy Performance of Buildings Directive (EPBD; 2010/31/EU) and the Energy Efficiency Directive, set efficiency standards that may be met through public procurement procedures. These pro-active EU policies notwithstanding, responsibility for ensuring climate-friendly innovations are procured in government tenders primarily rests with EU Member States. As part of the Green Deal Industrial Plan and efforts by the European Commission and Member States to broadly strengthen Europe's carbon-neutral industry's competitiveness, actions the European Commission can take to support and/or coordinate Member States' efforts are currently being explored. The European Commission could push for standardized reporting methods, mandatory sectoral requirements and the establishment of product-specific carbon baselines.[8]

Additional federal, state and local authority regulations apply to construction services. In certain public buildings like schools, additional state regulations may apply. In principle, the provisions of the German Construction Contract Procedures (VOB) are binding throughout the country. The VOB contains legal provisions and technical rules and is the standard for all public-sector construction contracts. It includes specifications for awarding and executing construction work, as well as applicable technical contract terms (VOB/C). The latter are regularly reviewed and updated to account for technical improvements ready to be applied in practice. Additional requirements for climate-neutral procurement in the construction industry could be integrated into the VOB/C; for example, in the use of climate

[7] Further recommendations can be found in the "Guide to innovation-enhancing public procurement" of the European Commission (2018) and in the guide "Innovative public procurement" of the Competence Center for Innovative Procurement of the BMWK (2017).

[8] Further recommendations for European framework conditions for climate-neutral procurement can be found in the guide "Green Public Procurement: a key to decarbonizing construction and road transport in the EU" by the Stockholm Environment Institute (2023).

neutral concrete. One major advantage of requiring climate-neutral building materials is time-consuming lifecycle cost analyses can be eliminated.

Special regulations contained in the Climate Protection Act and the Circular Economy Act are also critically important. For example, the Climate Protection Act prioritizes climate-friendly products and services (Section 13 KSG).[9] The Federal Constitutional Court's spring 2021 decision that the Climate Protection Act is unconstitutional led to amendments to the Act that introduced a shadow carbon price for public tenders. This means that for the first time, long-term damage caused by greenhouse gas emissions can be priced in. In addition, the federal government has committed to creating a climate-neutral federal administration by 2030 (Section 15 KSG). To implement these requirements, the General Administrative Regulation on the Procurement of Climate-Friendly Services (AVV Klima) has been in force at the federal level since January 2022.

At the federal level, Germany has one of the world's most progressive procurement regulations for climate – but in practice, it's too ineffective. The AVV Klima contains regulations on economic feasibility studies, including forecasts of whole-lifecycle greenhouse gas emissions. This is crucial for making side-by-side comparisons between fossil fuel-based and climate-neutral offers. However, the regulation is difficult to apply in practice, especially for large-scale, emission-intensive projects. At the same time, the shadow carbon price level is measured against low carbon prices set by the Fuel Emissions Trading Act.[10] This means that while AVV Klima is one of the world's most advanced regulations for awarding tenders based in part on their ability to achieve climate goals, its overall effectiveness remains limited. Therefore, extended applications at state and municipal levels are urgently recommended.

[9] The Closed Substance Cycle Waste Management Act also stipulates a preference obligation for resource-saving products and services (§ 45 KrWG).
[10] Starting from a CO_2 price of just €25 (2021), this will rise to €55-€65 in 2026.

The consequences of Germany's gross, systemic mispricing of the shadow carbon price

AVV Klima compels the federal government to set a shadow carbon price for all emissions. Currently, the carbon price used for most federal-level German policymaking is less than €40 euros per metric ton. By 2025, and in accordance with the Fuel Emissions Trading Act (Section 10 (2), BEHG), the shadow carbon price will increase slightly, to €55 per metric ton. From 2026, the shadow carbon price will then rise flexibly to a maximum of €65 per metric ton. All these prices are far too low. The Ministry of the Environment, for example, lists a real CO_2 price of €195 euros per ton – about five times higher than what AVV Klima currently uses.

Such gross, systemic mispricing of fossil fuel's true climate costs has a major impact on Germany's economy and environment. On the one hand, the use of goods and materials produced by burning fossil fuels is perpetuated despite economic evidence to the contrary. On the other hand, cleaner goods and materials are undervalued.

This not only runs counter to the spirit of the Climate Protection Act – it also does something far worse. It transfers costs on to future generations, along with an overheated atmosphere.
Beyond 2026, it's unclear exactly where carbon prices will land. This lack of specificity makes it difficult for large projects with high emissions and – crucially – longer operating periods to plan for major capital investments.

This one-two punch of carbon prices that are too low and future carbon prices that are difficult for businesses to predict hobbles efforts to reduce emissions in federal public tenders, particularly from the largest sources of emissions. To address this, there is an urgent need for AVV Klima to permanently apply the official real CO_2 price of €195 per ton.[11]

Climate-neutral certifications

To orientate state- and municipal-level public procurement toward climate neutrality, introduce climate-neutral certifications. For goods with traditionally high carbon footprints, green alternatives can be easily identified via certification measures. This eliminates the need for time-consuming lifecycle analyses, allowing contracting authorities to select climate-neutral offers reliably and with legal certainty. This significantly simplifies the process both for public contracting authorities and for bidders.

[11] The BMUV assumes an actual CO_2 price of around €195 per metric ton. See: Federal Environment Agency (2022), Methodological convention 3.1 for the determination of environmental costs: cost rates, URL: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-12-21_methodenkonvention_3_1_kostensaetze.pdf.

For example, when formulating technical requirements, award criteria, and contract performance conditions, public contracting authorities can now refer to certain required certifications like the Blue Angel certification (for many office materials in Germany) and EU eco-labels.

Introducing a climate neutrality seal requires certifying bidding companies, with a focus on emission-intensive goods and building materials. In the coming years – and especially in sectors with high greenhouse gas emissions (i.e., construction materials and industrial goods) – only climate-neutral procurement should be considered. This means that in addition to functionality, public tenders should also consider a given product's environmental footprint. This requires certification schemes similar to Germany's Blue Angel or other EU country certifications. With the Blue Angel, Germany boasts an environmental certification program that contracting authorities have successfully used for years.[12] For building materials and other fossil-based goods, similar certification schemes are urgently needed. One possible template: the widely recognized LEED certification for climate-friendly building materials in the US.[13]

A climate seal simplifies procurement processes for both public contracting authorities and for bidders. For example, when formulating technical requirements, award criteria, and/or contract performance conditions, public contracting authorities could simply refer to climate certifications. This provides legal certainty and speeds up the award process. It also helps implement the Climate Protection Act – specifically, Section 13's "obligation to give preference" to climate-friendly products, services and construction work.

Uniform certification and labeling can help clearly state an individual product's carbon footprint. Certification and labeling can help clearly identify a given product's sustainable and climate-friendly properties, and they also increase the transparency for industry. For consistent labeling of the carbon footprint of individual goods and process routes, a database with lifecycle data should be established.[14] This would underscore public procurement's potential for consumers, have a major impact on the market for climate-friendly products, and help spur innovation.

It's key to green public procurement efforts that there are binding carbon footprint requirements for various products. This could take the form of either: 1) a fixed quota of products with a lower carbon footprint (e.g., green steel); or 2) a fixed maximum carbon footprint for a group of products. The application of such a label requires, above all, a central point of contact that can assist individual awarding bodies. This central point of contact should also coordinate the uniform certification and use

[12] By requiring the Blue Angel, public institutions help to reduce environmental impact, support the use of environmentally friendly products and fulfill the exemplary function of public institutions.
[13] URL: https://www.usgbc.org/leed.
[14] IW Policy Paper 23/21, Green Public Procurement. Potentials of Sustainable Procurement (2021).

of labels and provide relevant information and guidelines. In this instance, resources that already exist within the Federal Environment Agency should be expanded.

Participation of climate tech start-ups in public tenders

Successful participation of start-ups in public tenders requires comprehensive preparation by founders. Public tenders are complex procedures requiring companies to make significant commitments of their time and resources. To ensure eligibility criteria are met and a compliant bid is submitted, it's important for founders to understand tender requirements and the procurement process. Communication channels between start-ups and key stakeholders (procurement officers, decision-makers, etc.) must be established and remain open to better understand specific needs and requirements. In many cases, establishing an industry consortium is a prerequisite to pursuing tenders, even though partnering with more established companies often entails long lead times. It's also important that start-ups are compliant with all relevant regulations, standards and certifications.

Pursuing public tenders is a complex, multi-stage process; start-ups need support to be successful. Public procurement is the process through which government agencies purchase goods and services from private-sector vendors. The process typically begins with planning: the government agency defines its needs and establishes procurement requirements. This can include the specific requirement that any purchased goods and services (including, crucially, construction services) are carbon-neutral. This is followed by publishing a notice in a newspaper and/or online via established procurement portals. Interested vendors and suppliers then submit bids. (Depending on the value of the contract, procedures for this phase can vary greatly.) Bids are then evaluated by the government authority to determine the most advantageous offer. At this stage, climate neutrality can either be included as a mandatory requirement, or as only part of the deciding factor. Finally, the contract is awarded to the bidder with the best overall offer. During contract execution, active management by the government authority can help ensure the services it contracted for are actually provided. The entire process is governed by national and EU procurement laws and regulations, which help ensure fair competition and transparency.

For more innovative climate technologies to be considered in climate-neutral public tenders, company size should be less of a deciding factor. Start-ups are often at a disadvantage in pursuing public tenders when compared to larger, more established companies. For example, company size and financial requirements can be difficult to meet. To address this problem, requirements for company size, revenue levels, etc., should be waived (or at least minimized) for young companies with promising carbon-neutral bids. Consortium offers from multiple companies should also be allowed to give start-ups the opportunity to partner with more established businesses. When implementing the start-up strategy, binding guidelines should be developed for this explicit purpose.

References

Adelphi Research, Forschungsstelle für Umweltpolitik, (2010). Innovationspotentiale der umweltfreundlichen öffentlichen Beschaffung, URL: https://www.bmuv.de/fileadmin/Daten_BMU/Pools/Forschungsdatenbank/fkz_3708_95_302_innovationspotentiale_umweltfreundliche_beschaffung.pdf

BMWK (2022), Die Start-up-Strategie der Bundesregierung

DIW Wochenbericht Nr. 51 + 52/2019

Europäische Kommission (2018), Mitteilung der Kommission zur Beschaffung von Innovationen C (2018) 3051

European Commission (2023), COM (2023) 62 final – A Green Deal Industrial Plan for the Net-Zero Age, URL: https://commission.europa.eu/system/files/202302/COM_2023_62_2_EN_ACT_A%20Green%20Deal%20Industrial%20Plan%20for%20the%20Net-Zero%20Age.pdf

European Commission, PwC EU Services EESV (2021), The strategic use of public procurement for innovation in the digital economy

European Council (2023), Special meeting of the European Council (9 February 2023) – Conclusions, URL: https://data.consilium.europa.eu/doc/document/ST-1-2023-INIT/en/pdf

Institut der deutschen Wirtschaft (2021), IW-Policy Paper 23/21-Green Public Procurement. Potentiale einer nachhaltigen Beschaffung

Intereconomics (2022, 57(3), 175–178), Green Public Procurement: A Neglected Tool in the European Green Deal Toolbox?

KOINNO (2017), Innovative öffentliche Beschaffung. Leitfaden, 2. Auflage

KOINNO, FoRMöB (2018), Erfassung des aktuellen Standes der innovativen öffentlichen Beschaffung in Deutschland 2018 – Darstellung der wichtigsten Ergebnisse

Nilsson Lewis, A., Kaaret, K., Torres Morales, E., Piirsalu, E. & Axelsson, K. (2023), *Green Public Procurement: a key to decarbonizing construction and road transport in the EU*. Stockholm Environment Institute, URL: https://doi.org/10.51414/sei2023.007

Löschel & Schulze (2022), Brauchen wir CO_2-Schattenpreise für öffentliche Ausgaben? Wirtschaftsdienst, 2022, 102 (13), 41–46, URL: https://www.wirtschaftsdienst.eu/pdf-download/jahr/2022/heft/13/beitrag/brauchen-wir-co2-schattenpreise-fuer-oeffentliche-ausgaben.html

McKinsey (2010), Potenziale der öffentlichen Beschaffung für ökologische Industriepolitik und Klimaschutz

OECD (2019), Öffentliche Vergabe in Deutschland: Strategische Ansatzpunkte zum Wohl der Menschen und für wirtschaftliches Wachstum

UBA (2021), Die Diffusion von Umweltinnovationen – Ein Beitrag zur Weiterentwicklung der deutschen Umweltinnovationspolitik

UBA (2013), Treibhausgas-Emissionen durch Infrastruktur und Fahrzeuge des Straßen-, Schienen- und Luftverkehrs sowie der Binnenschifffahrt in Deutschland, URL: https://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/texte_96_2013_treibhausgasemissionen_durch_infrastruktur_und_fahrzeuge_2015_01_07.pdf

Van den Heuvel & Popp (2022), The role of Venture Capital and Governments in Clean Energy: Lessons from the First Cleantech Bubble. National Bureau of Economic Research, Cambridge, Mass., NBER working paper w29919

TECH FOR NET ZERO ALLIANZ

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Chausseestraße 128 a

10115 Berlin

Tel.: +49 (0)30 66 777-0

Fax: +49 (0)30 66 777-699

E-mail: info@dena.de

www.techfornetzero.de

www.dena.de

Authors

Tobias Lechtenfeld, Tech for Net Zero, 1.5°Ventures

Michael Müllneritsch, dena

Reviewers

Pia Dorfinger, dena

Maria Leis, Breakthrough Energy

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