World Sustainable Built Environment Conference 2017 Hong Kong Transforming Our Built Environment through Innovation and Integration: Putting Ideas into Action 5-7 June 2017

Sustainability Assessment of Buildings as Part of Green Public Procurement an Introduction

Andreas Rietz (BBSR) & Thomas Lützkendorf (KIT)





German Session BMUB: Andreas Rietz & Thomas Lützkendorf

Questions

How can the instruments of green public procurement (**GPP**) and sustainable public procurement (**SPP**) contribute to the efforts towards **achieving sustainable development in the construction sector**?

What is the **role** of sustainability assessment systems for buildings?

Session BMUB: Andreas Rietz & Thomas Lützkendorf

Are there **specific requirements** for such systems?





Key role of public authorities

"There is a key role for **government at all levels** to **lead by example**".

Public buildings should be **exemplars of sustainable building** and **catalytic agents** for the development of **resource efficient supply chains, technologies, skills and expertise.**"

nan Session BMUB: Andreas Rietz & Thomas Lützkendorf



10YFP





Green public procurement (GPP) – a definition

"Green Public Procurement (GPP) is a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.

GPP is a **voluntary instrument**, which means that Member States and public authorities can determine the extent to which they implement it." Public Procurement for the Future



http://ec.europa.eu/environment/gpp/pdf/GPP_Good_Practices_Brochure.pdf

Session BMUB: Andreas Rietz & Thomas Lützkendorf





Green public procurement (GPP) – the impact

"Public authorities are major consumers in Europe, spending approximately 2 trillion Euros annually, equivalent to approximately 19% of the EU's gross domestic product (2010).

By using their purchasing power to choose goods and services with lower impacts on the environment, they can make an important contribution to sustainable consumption and production." Public Procurement for the Future



http://ec.europa.eu/environment/gpp/pdf/GPP_Good_Practices_Brochure.pdf

Session BMUB: Andreas Rietz & Thomas Lützkendorf





GPP – aspect in the industry transformation framework

	2.1 Technology	, materials and to	ols	2.2 Processes and operations		
Company level	Advanced building and finishing materials	Standardized, modularized and prefabricated components	(Semi-)automated construction equipment	Front-loaded and cost-conscious design and project planning	Innovative contrac- ting models with balanced risk- sharing	A common and appropriate frame- work for project management
	New construction technologies, e.g. 3D printing	Smart and life-cycle- optimizing equipment	Digital technologies and big data along the value chain	Enhanced manage- ment of subcontrac- tors and suppliers	Lean and safe con- struction manage- ment and operations	Rigorous project monitoring (scope, time, cost)
	2.3 Strategy and business model innovation 📎			2.4 People, organization and culture		
	Differentiated busi- ness model and tar- geted consolidation and partnerships	Sustainable products with optimal life-cycle value	Internationalization strategy to increase scale	Strategic workforce planning, smart hiring, enhanced retention	Continuous training and knowledge management	High-performance organization, culture and incentive schemes
/el	3.1 Industry collaboration		3.2 Joint industry marketing			
Sector level	Mutual consent on standards across the industry	More data ex- change, bench- marking and best- practice sharing	Cross-industry collaboration along the value chain	Industry-wide collaboration on employer marketing	Coordinated communication with civil society	Effective interaction with the public sector
Government	4.1 Regulation and policies		4.2 Public procurement			
	Harmonized building codes/standards and efficient permit processes	Market openness to international firms and SMEs	Promotion and funding of R&D, technol. adoption and education	Actively managed and staged project pipelines with reliable funding	Strict implemen- tation of trans- parency and anti- corruption standards	Innovation-friendly and whole-life-cycle- oriented procure- ment

German Session BMUB: Andreas Rietz & Thomas Lützkendorf







Shaping the Future of Construction A Breakthrough in Mindset and Technology

ndustry Agenda



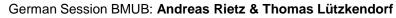
http://www3.weforum.org/ docs/WEF_Shaping_the_ Future_of_Construction_f ull_report_.pdf

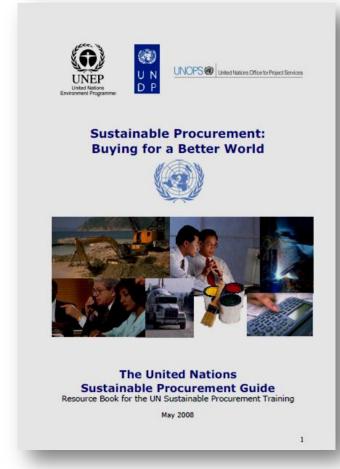
BBSR

"Sustainable Public Procurement (SPP) is a process by which public authorities seek to achieve the appropriate balance between the three pillars of sustainable development - economic, social and environmental - when procuring goods, services or works at all stages of the project. Many public authorities in the EU are implementing GPP as part of a broader approach to sustainability in their purchasing, which also addresses economic and social aspects."

http://ec.europa.eu/environment/gpp/versus_en.htm



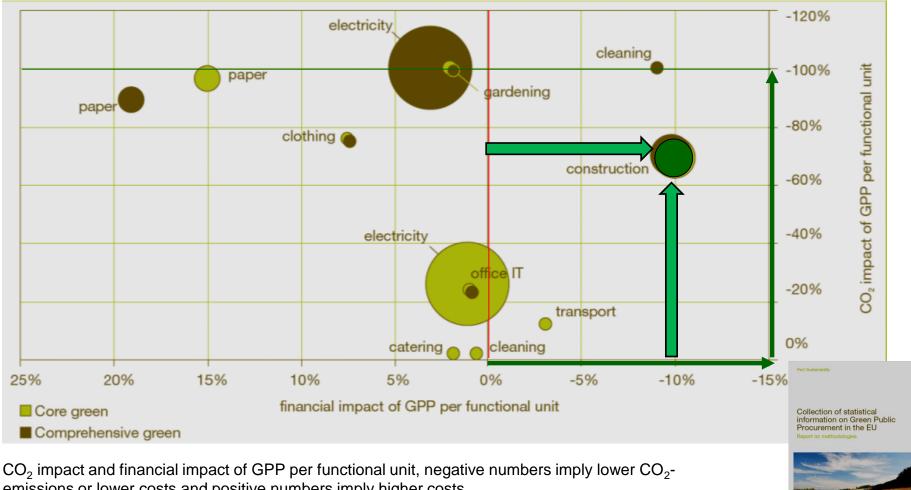


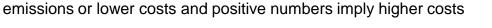






Possible impacts of GPP on GHG-emissions and LCC







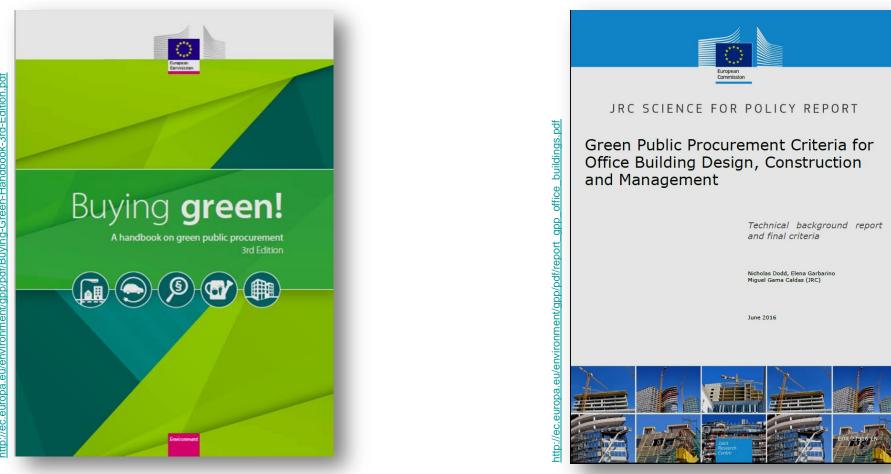
German Session BMUB: Andreas Rietz & Thomas Lützkendorf





BBSR

Available information on EU-level



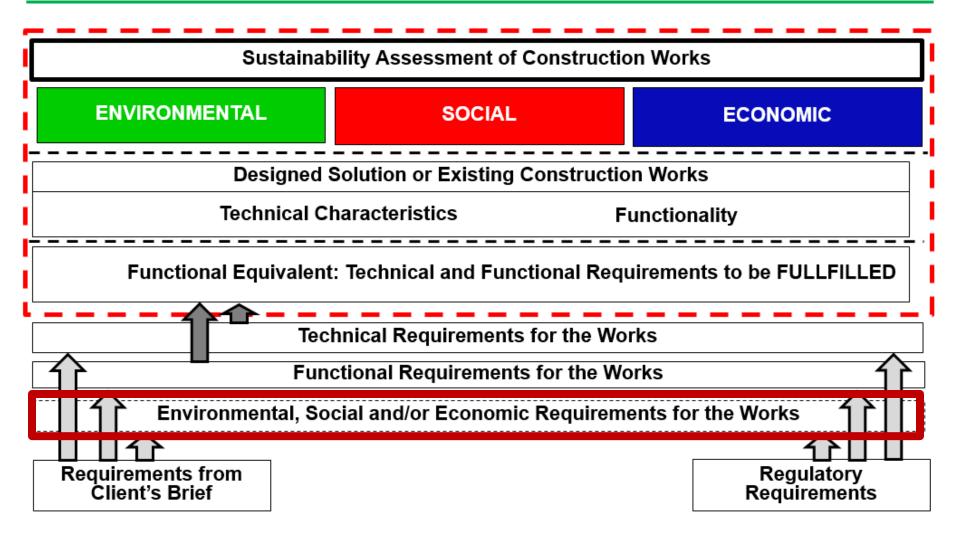






BBSR

Integration of additional requirements (see EN 15643)







German Session BMUB: Andreas Rietz & Thomas Lützkendorf

Requirements for the assessment systems

The following **requirements** are placed on **sustainability assessment systems** for buildings:

- Description of the functional equivalent
- Proof that certain functional requirements are fulfilled
- Proof that certain technical requirements are fulfilled
- Assessment of resource use
- Assessment of impacts on the environment
- Assessment of life cycle costs
- Assessment of safety and comfort

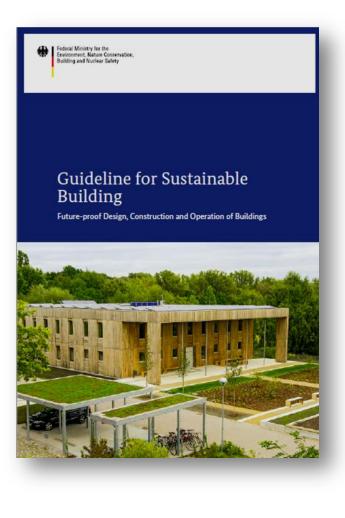




Situation in Germany

The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) formulated with the **Guideline for Sustainable Building** essential requirements for federal buildings.

This provides an important **basis for the sustainable procurement of buildings**. Additionally, it forms the basis for a set of databases and tools required for sustainability assessment. All these have been produced with public funds and **are freely available** – see www.nachhaltigesbauen.de.









The application of sustainability assessment systems for buildings **supports the following tasks**:

- Discussion and definition of objectives
- Checklist for relevant design tasks
- Ensuring the design quality
- Ensuring the quality of execution
- Proof of fulfillment of the defined objectives
- Signal of quality to third parties
- Object documentation





The "toolbox"

The following "**tools**" are available for supporting designers and decision makers, among others:

- Working aids for target setting
- Recommendations for design competitions
- Assessment system
- Databases with LCA data
- Information system on construction materials
- Information system on hazardous substances

Session BMUB: Andreas Rietz & Thomas Lützkendorf

- Information on service lives
- Aids for cost calculation





Questions for discussion

- a) What are your experiences with GPP and sustainability assessment in your country?
- b) From your point of view, do specific requirements for sustainability assessment systems used by public authorities arise?
- c) How the sharing of functions between the publicly managed assessment systems and private initiatives looks like in your countries?
- d) On what basis do you formulate your goals and benchmarks? Is "net-zero-emission" already a generally accepted goal and do you have related calculation and assessment rules?

sion BMUB: Andreas Rietz & Thomas Lützkendorf





World Sustainable Built Environment Conference 2017 Hong Kong

Transforming Our Built Environment through Innovation and Integration: Putting Ideas into Action 5-7 June 2017

Thank you !







BBSR

16

German Session BMUB: Andreas Rietz & Thomas Lützkendorf