

Benchmarking of DGNB-Certified Buildings in Austria

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Motivation Objectives & Key-Questions

Learnings from first DGNB-certified buildings in Austria

Further develop the assessment system

Research questionsAnalysis

1. Average assessment results
2. Variation of results
3. Suitability of benchmarks. Focus on LCA

Methodology

- Certified office buildings → 18 buildings
www.ogni.at
- Data source: Supported by Austrian Sustainable Building Council (ÖGNI)
- Statistical analysis
 - Aggregated results
 - Results per criterion
- Results presented anonymously

Objects Certified Office Buildings 500.000 m²

Certified office building	City	Certificate	Gross floor area, total	Overall Score
Amazon Court – River City Prague	Prague	Gold	38.960 m ²	81,4
Biz Zwei	Vienna	Silver	28.335 m ²	74,7
Bürogebäude Fritz Egger	Radauti	Gold	3.878 m ²	84,2
Business Boulevard Salzburg A	Salzburg	Silver	15.774 m ²	70,9
Business Boulevard Salzburg BC	Salzburg	Silver	13.664 m ²	70,4
Etechcenter	Linz	Silver	18.166 m ²	76,7
Euro Plaza 4	Vienna	Gold	86.921 m ²	81,1
e-Zone	Vienna	Silver	38.237 m ²	68,3
Forum Schönbrunn, Bauteil 2	Vienna	Gold	24.300 m ²	83,3
Karmeliterhof	Graz	Silver	569 m ²	71,0
Marximum Wien	Vienna	Silver	59.487 m ²	68,3
Millennium Tower	Vienna	Silver	78.036 m ²	76,1
Nikolaipplatz 5	Graz	Bronze	925 m ²	59,8
PowerTower	Linz	Gold	32.777 m ²	80,6
Rhomberg Bau / Schoeller 2 Welten	Bregenz	Silver	4.585 m ²	65,4
Rund Vier	Vienna	Silver	36.041 m ²	76,8
Strabag Gebäude Molzbichl	Spittal-Drau	Silver	2.940 m ²	71,5
TownTown CB 09	Vienna	Gold	9.552 m ²	80,0

Objects

Certified Office Buildings



Forum Schönbrunn Bauteil 2, Wien

Neubau Büro- und Verwaltungsgebäude

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EURO PLAZA 4, Wien

Neubau Büro- und Verwaltungsgebäude

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Marximum Wien, Wien

Neubau Büro- und Verwaltungsgebäude

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Strabag Gebäude Molzbichl, Spittal/Drau

Neubau Büro- und Verwaltungsgebäude

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Bürogebäude FRITZ EGGER GmbH & Co. OG in Radauti (Rumänien),

Neubau Büro- und Verwaltungsgebäude

[Weitere Informationen](#)



Werschaiplatz 5, 8020 Graz, Graz

Neubau Büro- und Verwaltungsgebäude

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Rund Vier, Wien

Neubau Büro- und Verwaltungsgebäude

[Weitere Informationen](#)










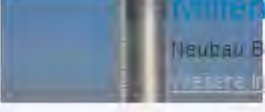
Rhomberg Bau / Schoeller 2 Welten, Bregenz

Neubau Büro- und Verwaltungsgebäude

[Weitere Informationen](#)

Objects

Certified Office Buildings

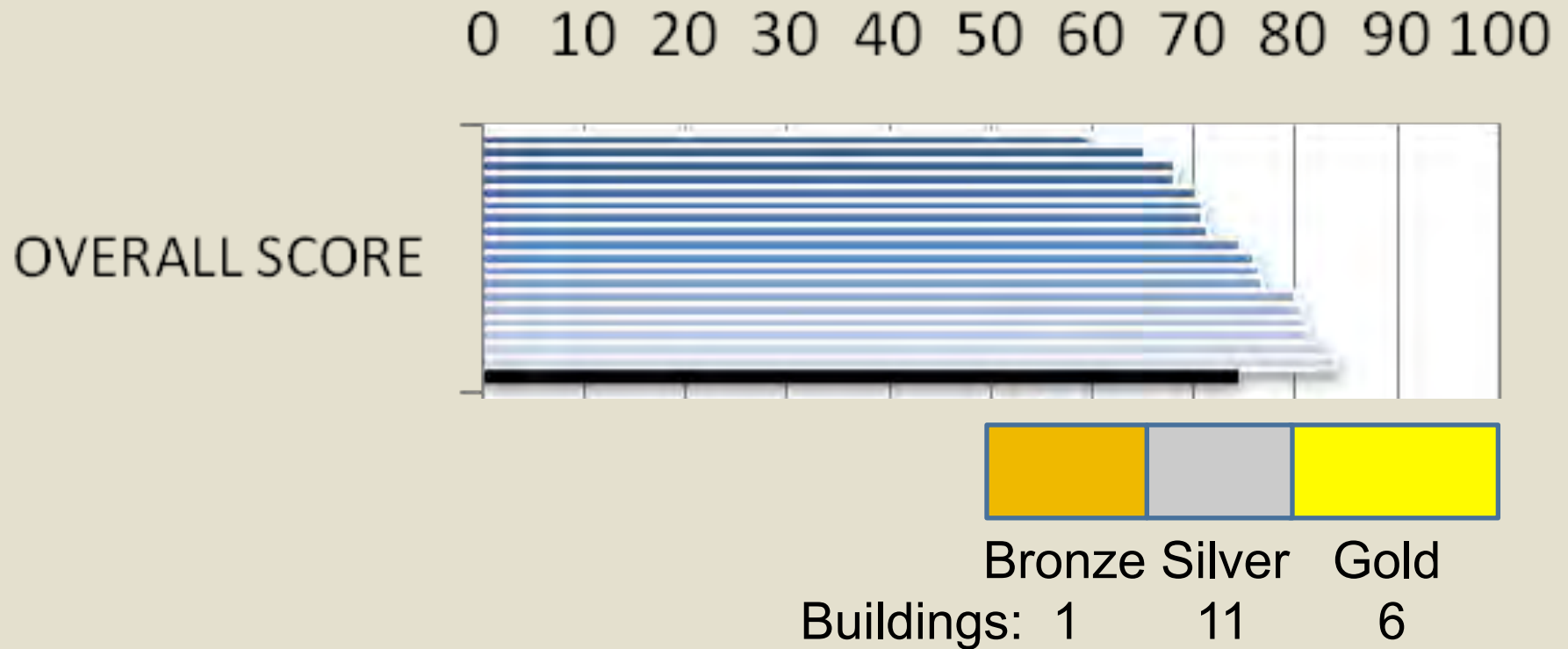
	TOWNTOWN Company Building 09, Wien Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	PowerTower, Linz Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	Biz Zwei, Wien Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	Kärntnerhof, Graz Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	ETECHCENTER, Linz Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	River City Amazon Court, Prag 8 Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	EcoOne, Wien Neubau Büro- und Verwaltungsgebäude Weitere Informationen
	Millennium Tower, Wien Neubau Büro- und Verwaltungsgebäude Weitere Informationen

Results

Overall Performance Values

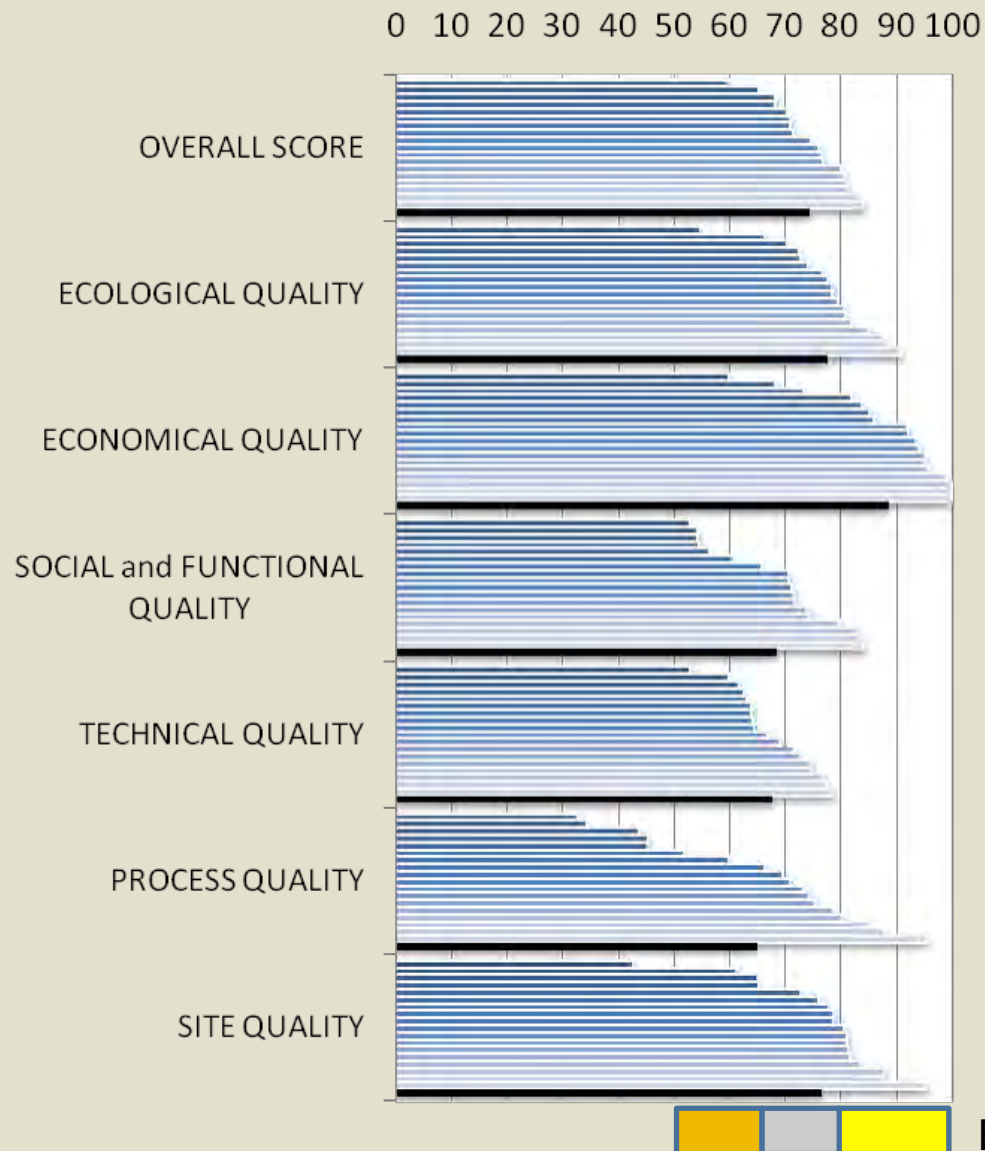
Performance values 0% - 100%

Single results and mean value (black bar)



Results

Aggregated results per criteria group



High values:

➤ Economical Q : Ø 89 %

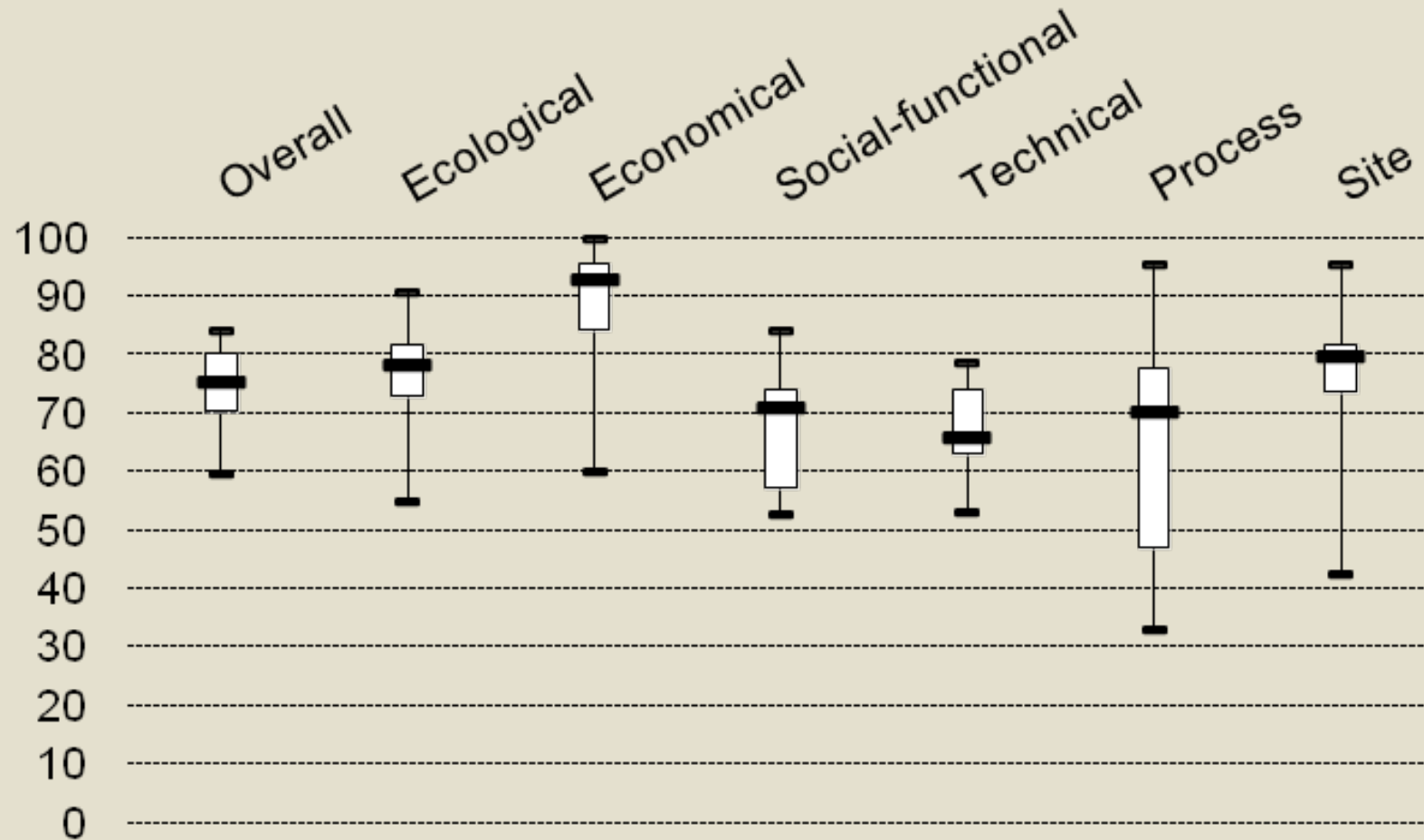
➤ Ecological Q: Ø 78 %

Low values:

➤ Process Q: Ø 65 %

Results

Aggregated results per criteria group

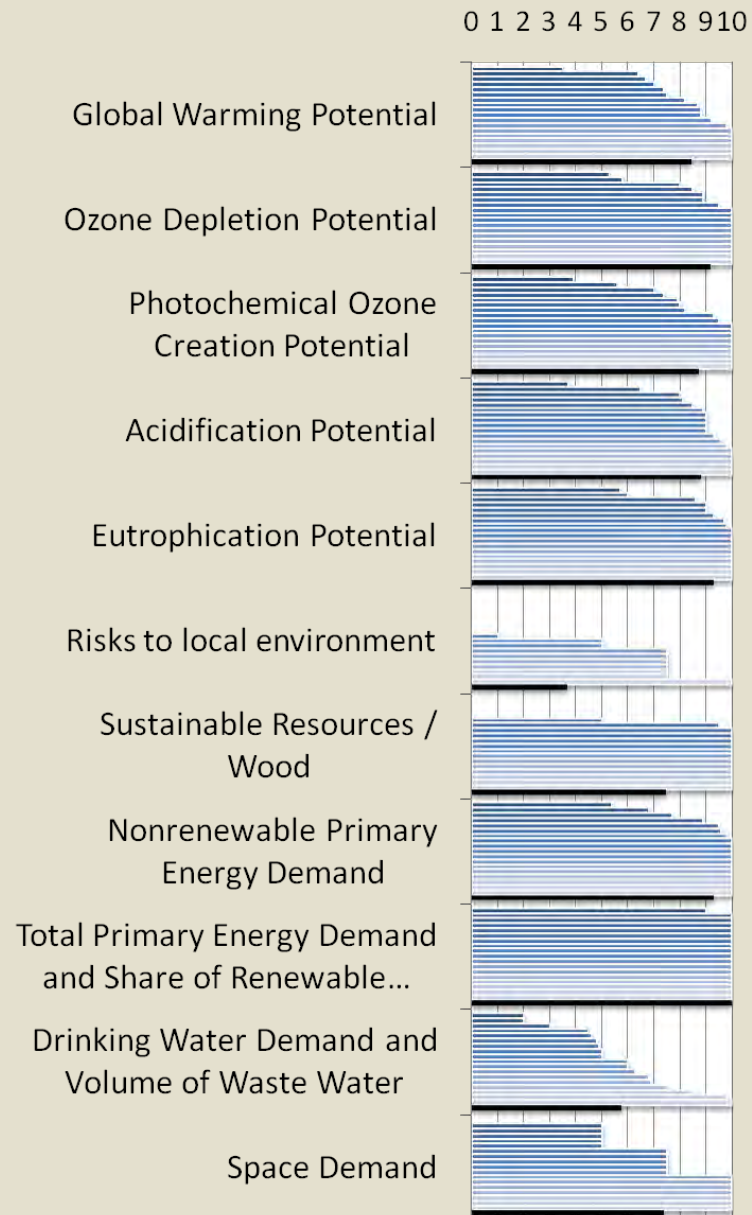


*Boxplot: Minimum, maximum, median, upper quartile and lower quartile.
50 % of all results are within the box*

Height of boxes and length of whiskers show the variation of the results

Results

Ecological Quality



High values:

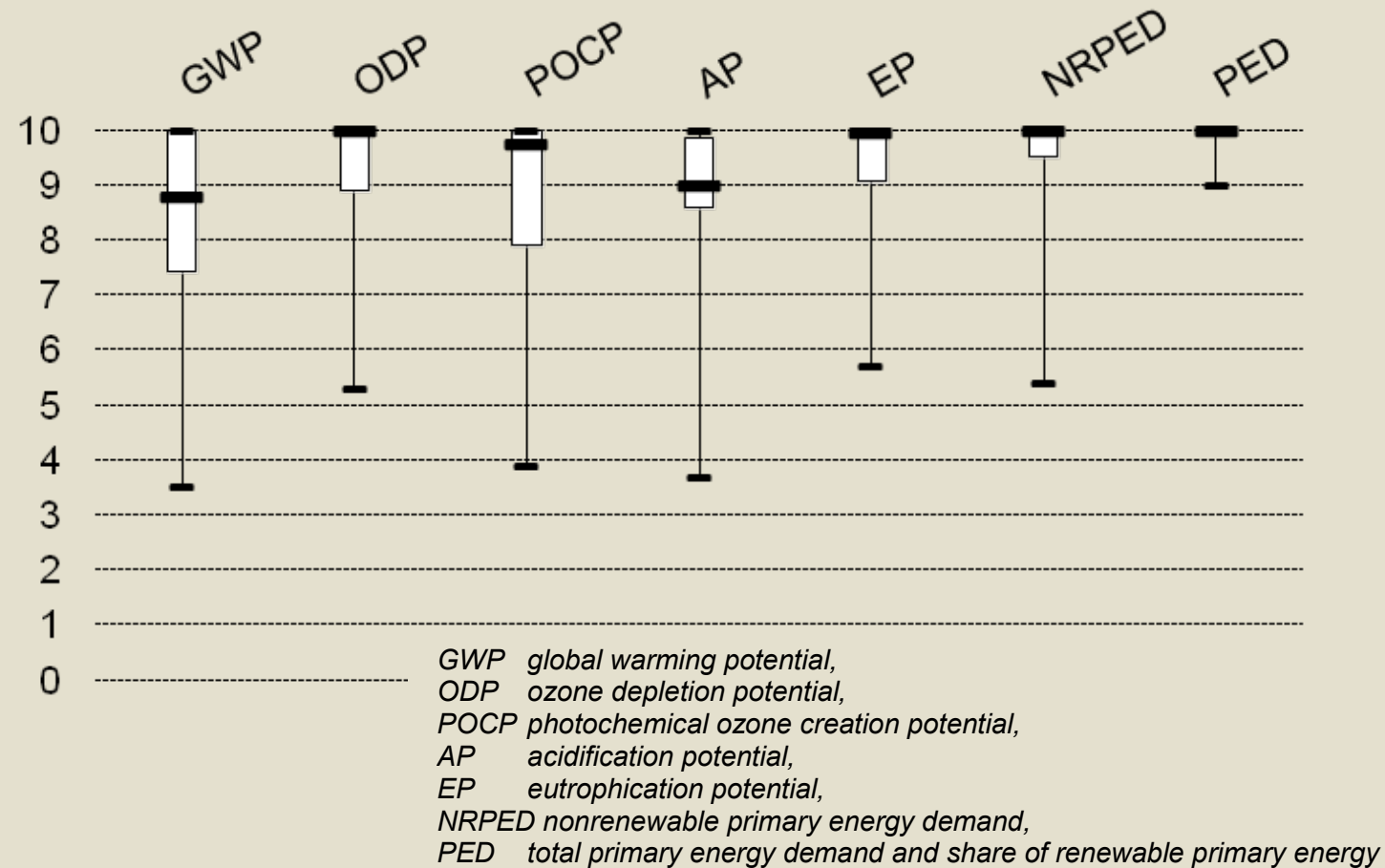
- Total Primary Energy Demand and Share of Renewable Primary Energy

Low values:

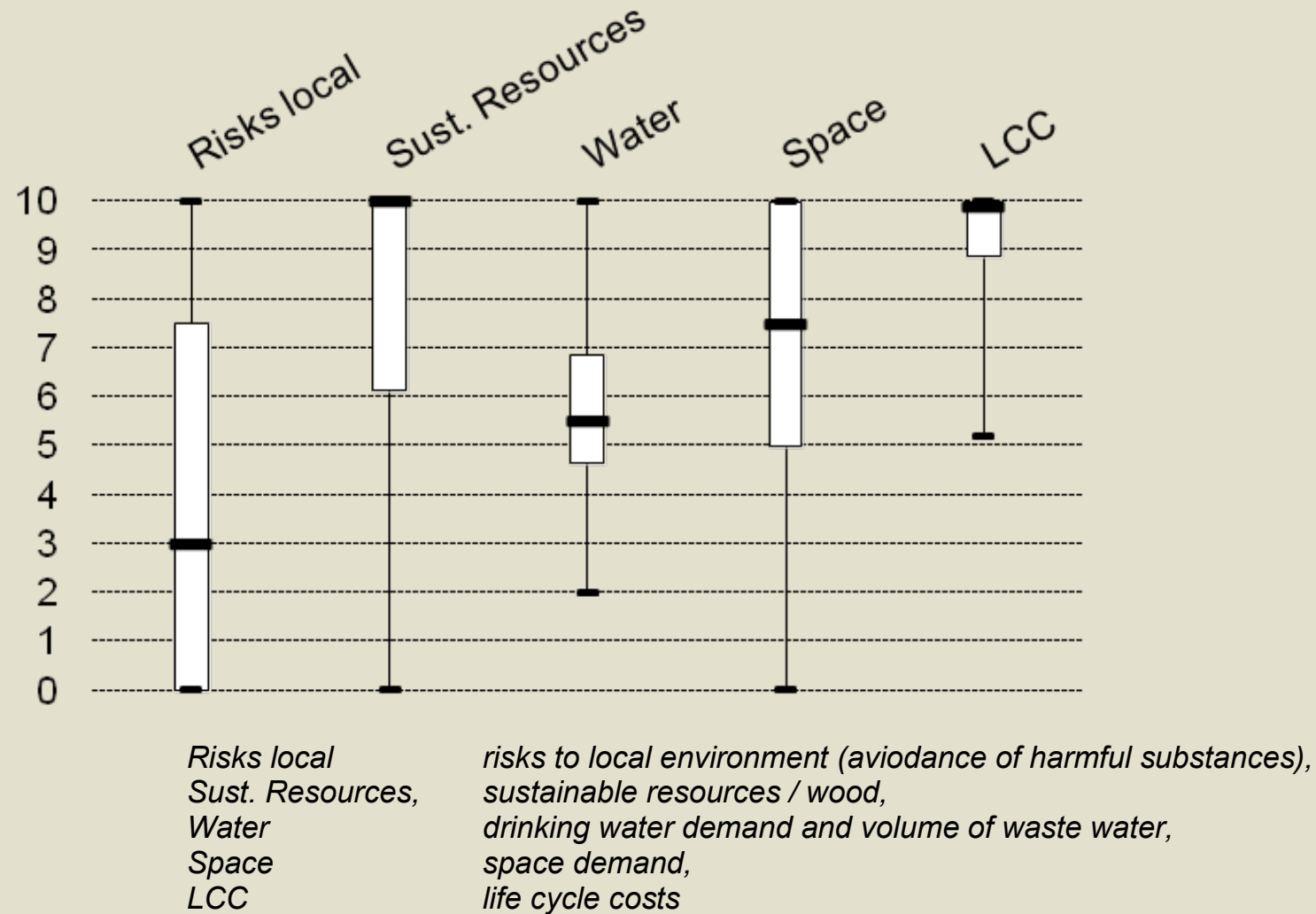
- Risks to local environment

Results

Life Cycle Assessment

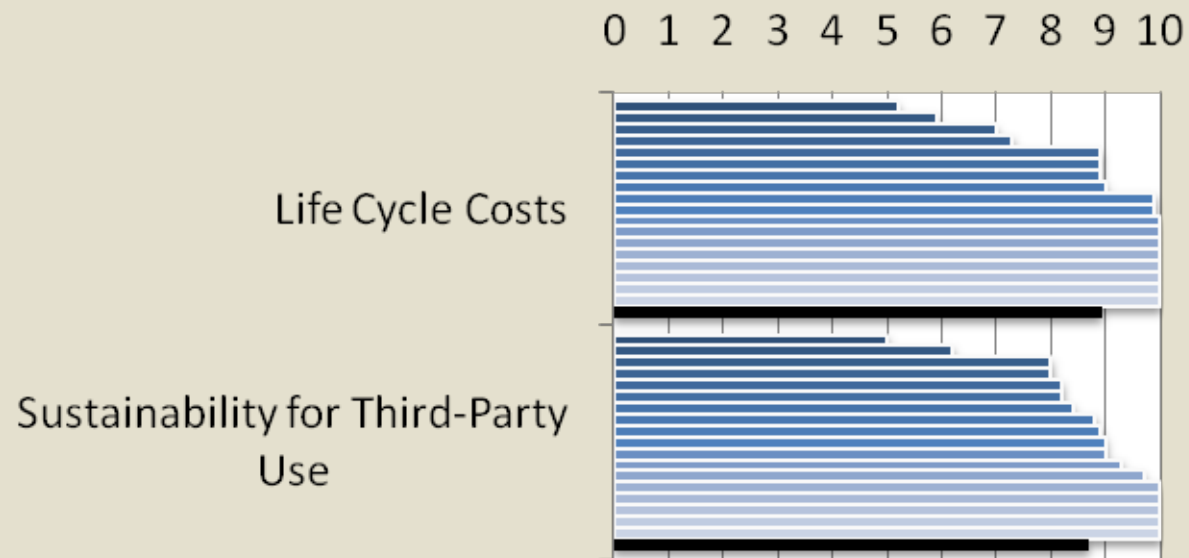


Results other ecological criteria and LCC



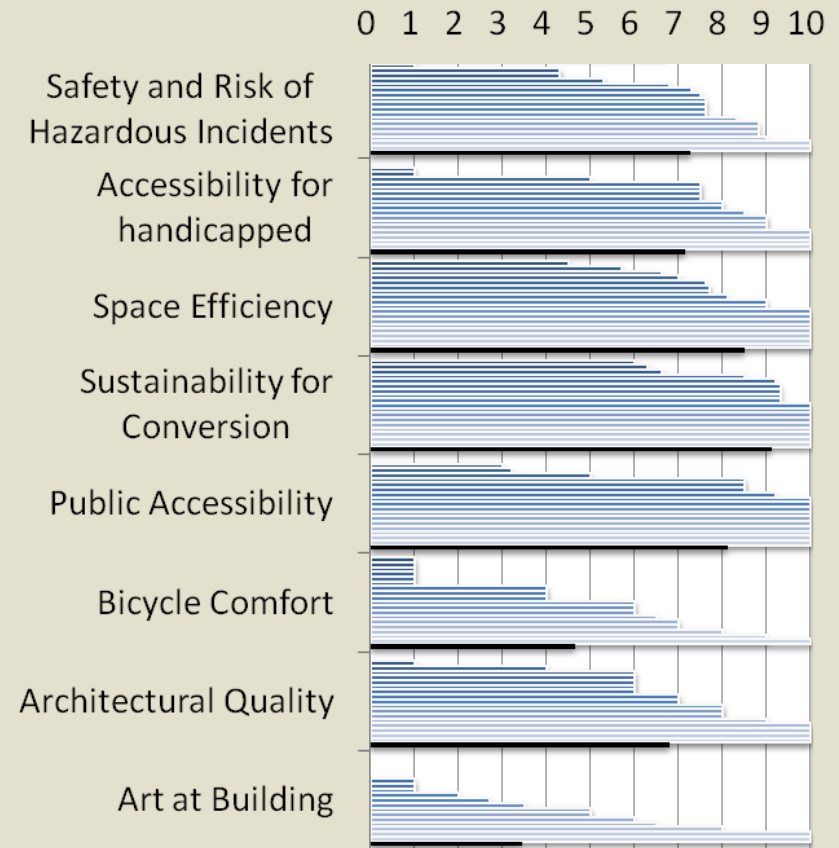
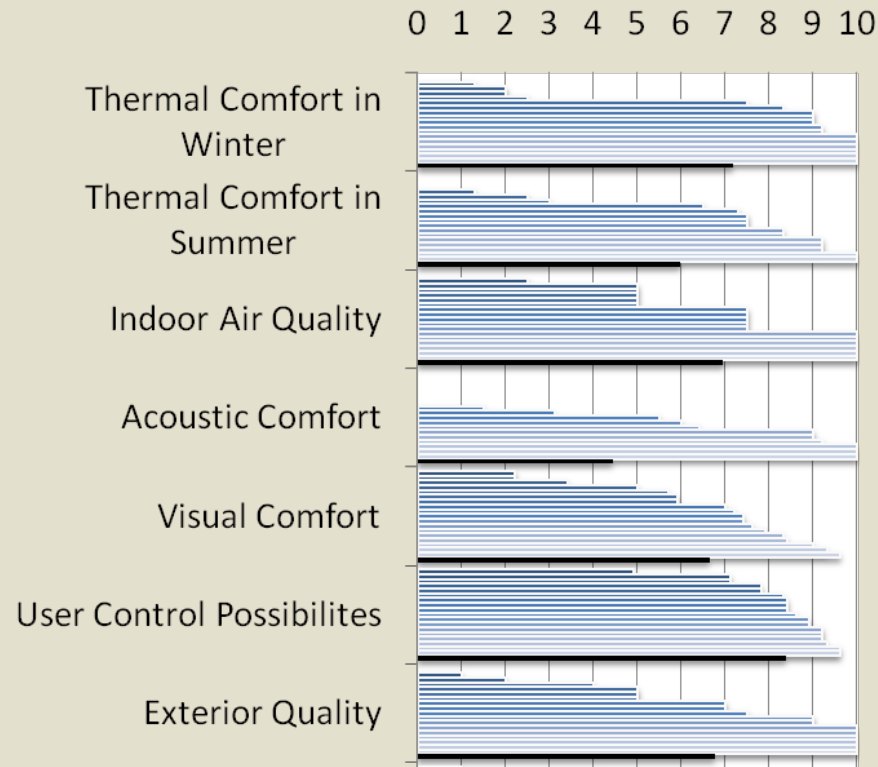
Results

Economical Quality



Results

Social and Functional Criteria



High values:

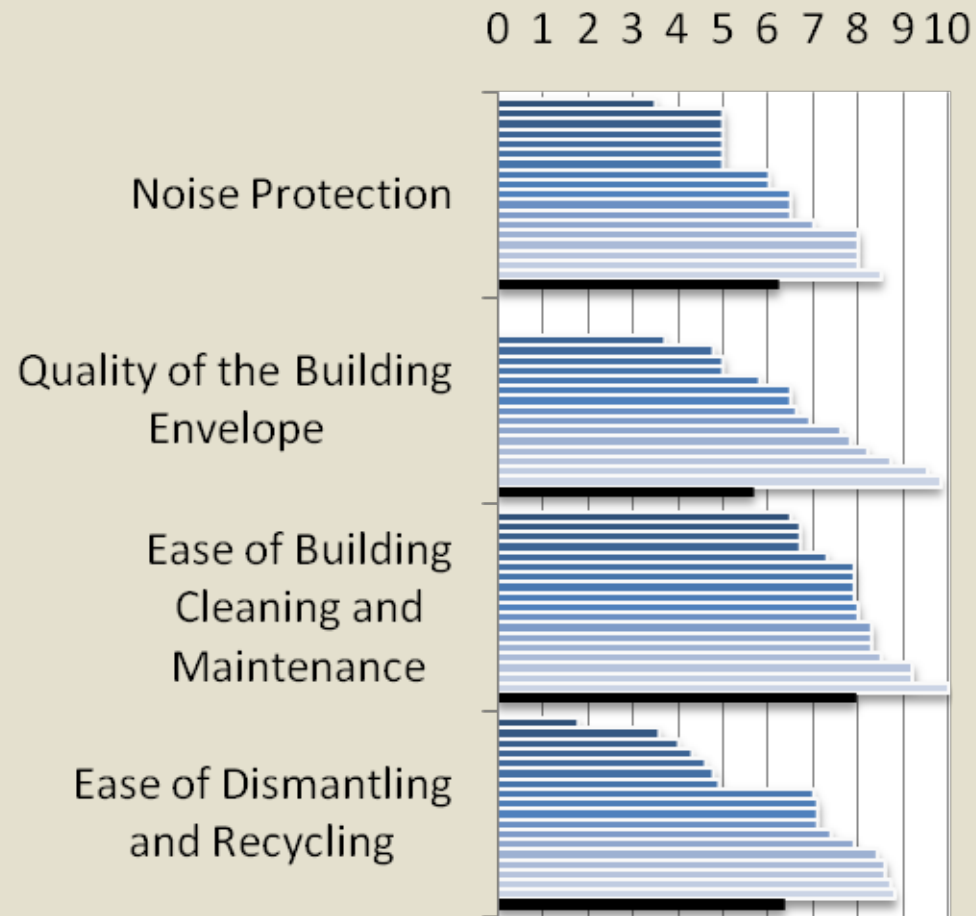
- Sustainability for Conversion
- Space Efficiency
- User Control Possibilities

Low values:

- Art at Building
- Acoustic comfort
- Bicycle comfort

Results

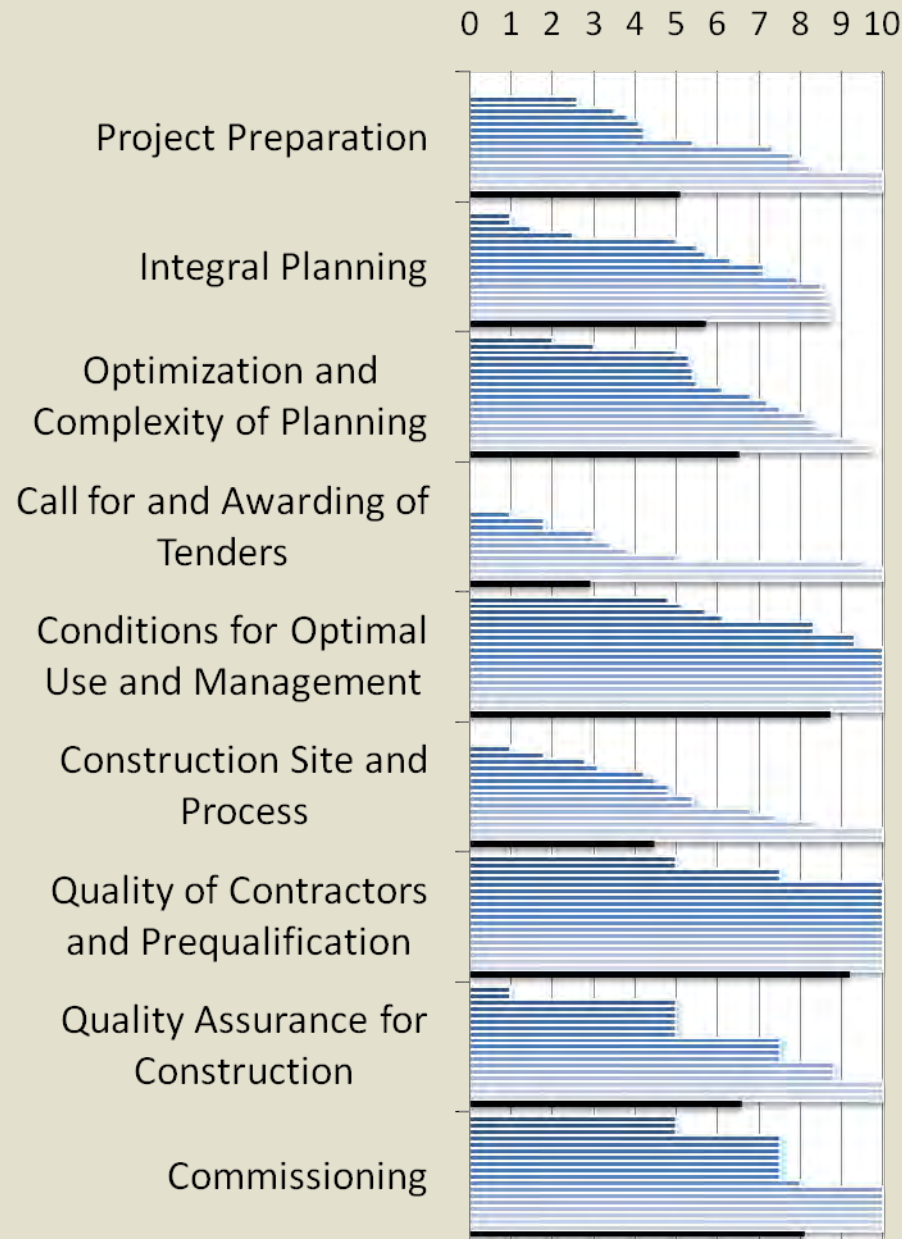
Technical Quality



High values:

➤ Ease of Building Cleaning and Maintenance

Results



Process Criteria

High values:

- Quality of Contractors and Prequalification
- Conditions for Optimal Use and Management

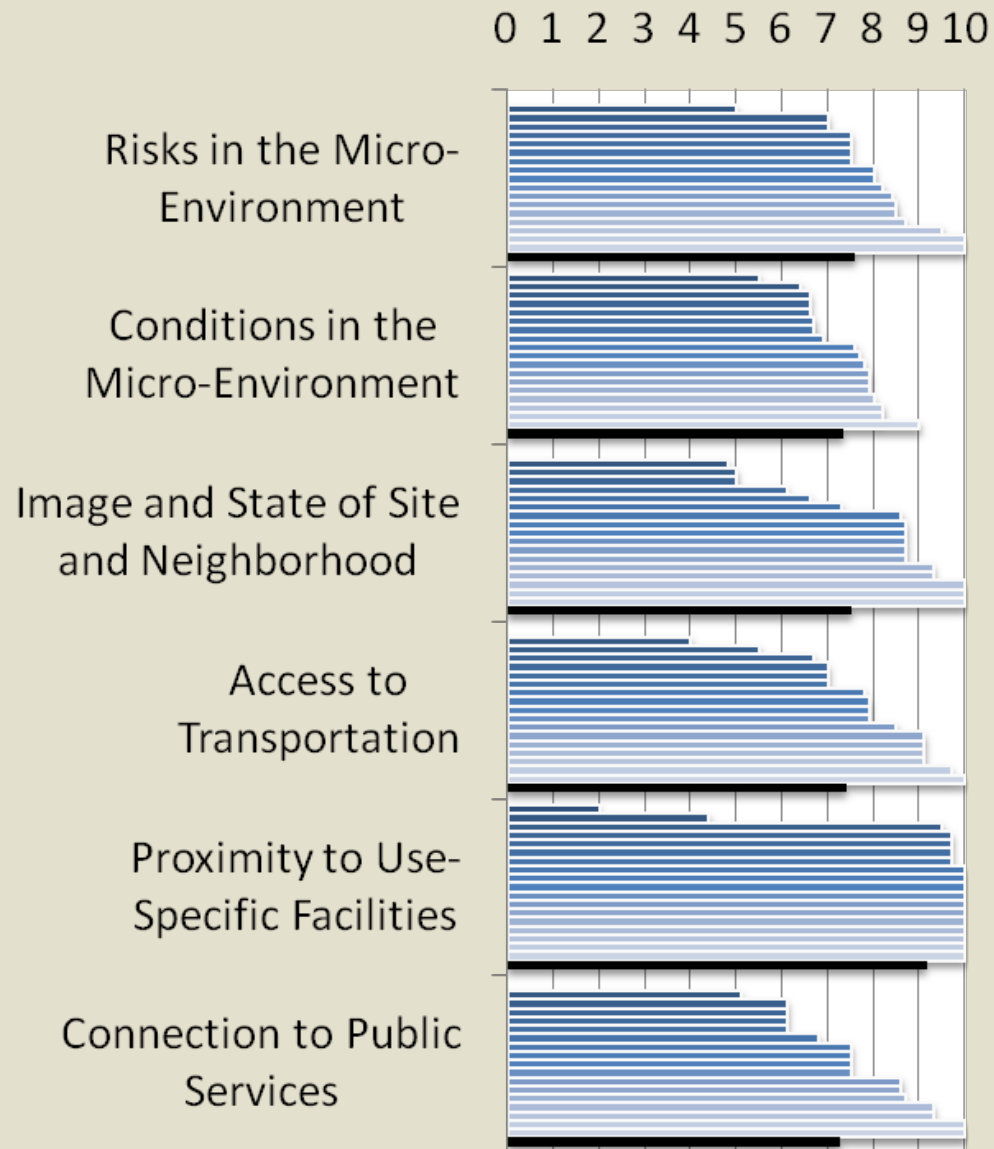
Low values:

- Call for and Awarding of Tenders
- Construction Site and Process
- Project Preparation

General challenge for DGNB introductory phase:
decision for certification relatively late project stage.
→ criteria for earlier project stages couldn't be influenced / improved

Results

Site Criteria



High values:

➤ Proximity to Use-Specific Facilities

Conclusions

- Generally strong variation of results
 - Assessment methodology is suitable and produces
 - Significant results for sustainability criteria
- Generally high results
 - Generally good quality or
 - stricter benchmarks needed
- A few Benchmarks need adjustment e.g.
 - Share of Renewable Primary Energy
 - Other LCA criteria
- Overshooting of LCA benchmarks doesn't influence results
 - Stricter target values or
 - bonus points
- Recommendation to disclose results of all criteria
 - Increase Transparency and Information Quality

Thank you for your attention !

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