

## **Opinion on the Revision of the EU Directive on the Energy Performance of Buildings (EPBD)**

Behind this document stands the Stockholm Region Association for European Affairs (SEF), comprising the City of Stockholm, the Stockholm County Association of Local Authorities and the Stockholm County Council. Other SEF members are Uppsala Regional Council, Sörmland Regional Council, Västmanland Association of Local Authorities and County Council, the Council for the Stockholm-Mälars Region and Gotland Region.

The Stockholm region welcomes the EU Commission consultation and the opportunity we now have to give an overview of how the EU Directive on the Energy Performance of Buildings (EPBD) has functioned in practice and how the region has worked on issues related to the energy performance of buildings. The Stockholm region would also like to highlight some examples of successful projects, such as methods of how we calculate the energy performance of our buildings.

Below is a summary of some key observations; for detailed information see the annex.

### **Summary**

- The Stockholm region considers that the directive, to all practical purposes, has been successful in raising the standards in new construction, but not in improving the performance of the existing stock.
- The directive has not accelerated the renovation rate of existing buildings. However, valuable demonstration projects, facilitating knowledge of nationally and EU funded energy-efficient renovations have seen the day.
- The Stockholm region is dubious about the added value of energy declarations. These might be helpful for smaller private property owners but for the public companies of the City of Stockholm, for example, they have not brought about much change. The quality has been doubtful and the monitoring is not working. Even in terms of saved kWh, the added value of energy declarations is doubtful. Having been regarded as a burden, they have impacted negatively on the results.
- As far as the "nearly zero energy buildings" target is concerned, the Stockholm region believes that it can be achieved in the long term, using as a lever, and following the lead of, cities sometimes having higher standards than the building regulations of the National Board of Housing, Building and Planning (BBR).
- Regarding whether the EPBD is helping the EU to achieve the energy and climate targets, it will mainly be the energy producers to shoulder the renewable energy requirements, but locally produced energy in, or adjacent to, buildings may generate a certain input.
- As to whether the EPBD is in line with the principle of subsidiarity, the Stockholm region considers that, for example, individual measurement requirements should be determined at the national level.

- On the question whether the information available on the national/regional building stock is sufficient to provide a clear picture of energy performance in the EU's building stock, the region considers that Swedish energy statistics generally are good, but not at the municipal level. It would be interesting to have a website, where you could compare the energy performance of buildings in the EU.
- Furthermore, we believe that *net energy consumption* is the optimal system boundary to set energy performance standards for buildings. It promotes technological neutrality and makes weighting factors obsolete. The choice of energy efficient heat exchangers, heat pumps, etc. can be controlled by energy labelling and by phasing out inefficient appliances.
- Finally, we would like to highlight the development of several successful projects focusing on energy efficiency in buildings in Stockholm. One of them is the urban development project Sustainable Järva. Another major project is GrowSmarter, which is financed by the EU program Horizon 2020.

Stockholm,

On behalf of the Stockholm Region Association for European Affairs



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## **ANNEX**

### **A. Overall assessment**

#### **1. How successful has the EPBD been in achieving on its goals?**

The directive has been successful in raising the standards in new construction, but not in improving the performance of the existing stock. Dubious added value of energy declarations.

#### **2. Has it helped improve energy efficiency in buildings?**

See question 1.

#### **3. Has it helped to increase renovation (more than 25% of the surface of the building envelope) rates?**

No, however demonstration projects facilitate knowledge of nationally and EU funded energy-efficient renovations.

#### **4. In your view, has the EPBD sufficiently contributed to accelerating investment in improving the energy performance of the EU's building stock? Why/Why not?**

It is true that there are refurbishment requirements in the BBR, but since certain types of energy measures do not require planning permission, it does not work that well. There are also wordings aimed at economical and technical feasibility, as well as taking into account conservation aspects, so there is plenty of room for arbitrary interpretation of the BBR, if it ever is controlled.

#### **5. Overall, do you think that the EPBD is contributing to cost-effective improvements of energy performance? Why/Why not?**

Yes, for new buildings.

#### **6. Do you think that the aim of ensuring the same level of ambition across the EU in setting minimum energy performance requirements within the EPBD has been met? Why/Why not?**

NA

#### **7. Has the EPBD effectively addressed the challenges of existing buildings' energy performance?**

No, not with the directive, but through demonstration projects.

#### **8. Has the EPBD set effective energy performance standards for new buildings?**

YES. However, we would like to see a clarification of which will be subject to the requirement for public authorities. For the rest, we find the energy requirement (50 kWh/year) for non-residential buildings at a good level.

**9. Will the 'nearly zero energy buildings' targets be met? Why/Why not?**

Yes, in the long term, using as a lever, and following the lead of, cities sometimes having higher standards than the BBR.

**10. How successful has the inclusion of Energy Performance Certificates in the EPBD been? Have the certificates contributed to improvements in energy performance of buildings?**

We do not think so. Might be helpful for smaller private property owners but for the public companies of the city, for example, they have not brought about much change. The quality has been doubtful and the monitoring is not working.

**11. What has worked well in the EPBD? What needs to be improved?**

Standards with regard to new construction function well, but standards with regard to existing buildings via the EPBD are not working. However, a lot of work is being done around the energy issue, primarily due to corporate governance and environmental awareness. Better opportunities for statistical comparison.

**12. Is the EPBD helping to contribute to the goals of EU climate and energy policy (Reduce greenhouse gas emissions by at least 40%; increasing the share of renewable energy to at least 27%; increasing energy efficiency by at least 27%; reform of the EU emission trading system)?**

It will mainly be the energy producers to shoulder the renewable energy requirements, but locally produced energy in, or adjacent to, buildings may generate a certain input.

**13. Is it in line with subsidiarity? What should continue to be tackled at EU level and what could be achieved better at national level?**

Individual measurement requirements should, for example, be determined at the national level.

**14. Are the objectives of the EPBD delivered efficiently?**

NA

**15. Has the EPBD created any unnecessary administrative burdens? If so, please provide examples**

In terms of saved kWh, the added value of energy declarations is doubtful. Having been regarded as a burden, they have impacted negatively on the results.

**16. Has the EPBD created any unnecessary regulatory burdens? If so, please provide examples**

NA

## **B. Facilitating enforcement and compliance**

### **17. Is compliance with the provisions of the EPBD adequate?**

NA

### **18. Is the definition of NZEBs in the EPBD sufficiently clear?**

The development of this definition has been a lengthy process.

### **19. Is the NZEB target in the EPBD sufficiently clear to be met?**

Yes, but it needs to be clarified for existing buildings in the BBR.

### **20. If not, what, in your view, are the missing factors that would ensure compliance with:**

#### ***a. Minimum energy performance requirements in new buildings?***

YES.

#### ***b. Minimum energy performance in major renovations of existing buildings?***

As has been mentioned, the BBR includes guidelines, but there is substantial room for derogations and many energy refurbishments do not require planning permission so there is no regulatory control.

#### ***c. Minimum energy performance for the replacing/retrofitting parts of the building envelope (roof, wall, window, etc.) and replacing/upgrading/installing technical building systems (heating, hot water, cooling, etc.)?***

See B.

#### ***d. Minimum renewable energy requirements to meet the NZEB target by 2020?***

Sweden is working in this area, mainly with the large-scale supply systems, which usually is better.

#### ***e. Certification of the energy performance of buildings, including tailor-made recommendations for the improvement of the energy performance of buildings?***

Has led to increased awareness, but little action.

#### ***f. Regular inspections of heating and air-conditioning systems?***

Inspection with control of the municipality of dimensioning, etc. requires resources that do not provide savings. The best control in the cooling area is already under way; it is done via a refrigerant code of practice by an accredited cooling company. The use of oil in Sweden is very modest and is being phased out by market forces.

**21. Do you think the cost-optimum methodology gives sufficient evidence regarding the actual cost of renovating buildings on top of the additional cost for Near Zero-Energy Buildings?**

For new construction, yes. For existing buildings, it is difficult to find a common model.

**22. Are there any cost-effective measures for ensuring compliance at local and regional level that could be replicated and used to improve compliance on a larger scale?**

Yes, see the report developed by the city: Report: The economics of renovation projects with energy related investments. <http://www.stockholm.se/energicentrum> and the city's investment in Sustainable Järva. Sustainable Järva <http://www.stockholm.se/hallbarajarva> and [http://wwf.panda.org/what\\_we\\_do/footprint/cities/urban\\_solutions/themes/housing/?204460](http://wwf.panda.org/what_we_do/footprint/cities/urban_solutions/themes/housing/?204460)

**23. What do you think of the various ways of calculating building energy performance at national/regional level? Please include examples.**

We have an industry standard in Sweden for energy calculations for the standardization of user-related inputs, such as indoor temperature and household electricity consumption, when this is not specified in the BBR.

<http://www.energimyndigheten.se/Global/Internationellt/BEE%20Indien/Sveby%20Standard%20for%20the%20Energy%20use%20in%20buildings.pdf>

**24. What measures are missing that could simplify the implementation of building regulations to make sure that buildings meet the required high energy performance levels?**

We must pay greater attention to using measurements to verify the energy performance of a new building. Sweden is probably the only EU country with this requirement.

**C. Energy Performance Certificates (EPCs) and stimulating energy efficient renovation of the building stock**

**25. Are the available data on the national/regional building stock sufficient to give a clear picture of the energy performance of the EU's building stock, as well as the market uptake of energy efficiency technologies and the improvement of the energy performance of buildings in the EU?**

Swedish energy statistics are generally good, but not at the municipal level. It would be interesting to have a website, where you could compare the energy performance of buildings in the EU.

**26. Are the long-term national renovation strategies adopted sufficient to stimulate the renovation of national building stock? What examples of best practice could be promoted across the EU and how?**

Doubtful whether the current pace is sufficient for a halving by 2050. More demonstration projects are needed. The City of Stockholm is the coordinator of a large project funded by Horizon 2020, [www.grow-smarter.eu](http://www.grow-smarter.eu), which we hope will serve as a good example.

**27. Have EPCs played a role in increasing the rate of renovation, the extent of renovation, or both? For instance, are EPC recommendations being defined as the most effective packages of measures to move the performance of buildings and/or their envelopes to higher energy classes?**

Their quality is too low.

**28. Is setting a minimum renovation target for Member States to undertake (e.g. each year; percentage of building stock) important and requires further attention in the context of meeting the goals of the EPBD?**

Yes, taking national conditions into account.

**29. Are obligations or binding targets for renovation or any other mandatory measure (e.g. mandatory minimum thermal efficiency standards for rental properties) missing from the EPBD to ensure that the directive meets its goals? If, yes, what kind of obligations and targets?**

NA

**30. Are EPCs designed in a way that makes it easy to compare and harmonise them across EU Member States?**

NA

**31. Do you think that the 'staged deep renovation' concept is clear enough in the EPBD?**

NA

**32. Have EPCs raised awareness among building owners and tenants of cost-efficient ways of improving the energy performance of the buildings and, as a consequence, help to increase renovation rates across the EU?**

Increased awareness, but few saved kWh.

**33. Should EPCs have been made mandatory for all buildings (a roofed construction having walls, for which energy is used to condition the indoor climate), independent of whether they are rented out or sold or not?**

NA

**D. Smart finance for Smart buildings: Financing energy efficiency and renewable energy in buildings and creation of markets**

**34. What are the main reasons for the insufficient take-up of the financing available for energy efficiency in buildings?**

This is not a major problem in Stockholm, but locally there are considerable problems in financing the renovation of buildings from the 60s and 70s, where the solvency sometimes is poor.

**35. What non-financing barriers are there that hinder investments, and how can they be overcome?**

Ignorance of small property owners and individuals.

**36. What are the best financing tools the EU could offer to help citizens and Member States facilitate deep renovations?**

Support in terms of knowledge is required on procurement, implementation and evaluation, something a city can provide.

**37. What role do current national subsidies for fossil fuels have in supporting energy efficient buildings?**

NA

**38. Have energy efficiency and renewable energy projects been combined to maximise their financing? How can the EU help?**

Co-financing of demonstration projects.

**39. How is investment in high-performing buildings stimulated and what is being undertaken to gradually phase out the worst performing buildings? Is it sufficient?**

NA

**40. What is being undertaken to solve the problem of 'split incentives' (between the owner and the tenant) that hampers deep renovations? Is it sufficient?**

NA

**41. Was**

***a) the scaling-up of existing funds sufficient to meet the goals of the EPBD?***

Any standard should be dealt with at national level. The EPC market is falling in Sweden. Property owners with a sound economy do not want EPCs and the EPC companies do not want to work with small property owners.

***b) the creation of aggregated facilities (through standardisation of Energy Performance Contracts and clarification of regulatory, fiscal and accounting issues) sufficient to meet the goals of the EPBD?***



See above.

## **E. Energy poverty and affordability of housing**

### **42. What measures have been taken in the housing sector to address energy poverty?**

NA

### **43. Should have further measures tackling energy poverty been included in the EPBD?**

NA

### **44. Has tackling energy poverty been a requirements when constructing new buildings and renovating existing buildings in Member States?**

NA

### **45. Are energy costs for heating and air conditioning being made available to interested buyers/tenants?**

NA

## **F. Ensuring new highly efficient buildings using a higher share of renewable energy**

### **46. What are the best policies at district and city level to increase energy efficiency in buildings? Have specific targets on renewable energies in buildings been included?**

Cities sometimes (like Stockholm) have higher standards than the BBR when building on the city's land. Renewable energy is generally best dealt with by the energy producers and with large-scale solutions, particularly on the electricity side.

### **47. On the basis of existing experience, are provisions on targets or specific requirements for new buildings, beyond the current NZEB targets, missing in the EPBD which could help achieve the energy efficiency 2030 target? If so, in what types of targets or requirements?**

Cities have gone further, which probably has contributed to the proposed limit for near zero-energy buildings (55 kWh/m<sup>2</sup>) of the National Board of Housing, Building and Planning.

### **48. Which building sectors have been addressed as a priority (public/private, residential/non-residential, industry, heating & cooling)?**

Public/private and residential/non-residential.

### **49. Has having no EU set targets (indicative or binding) for the sustainable public procurement of NZEB buildings by public authorities affected the development of NZEBs?**

NA

**50. Has the EPBD framework improved the self-consumption of electricity in buildings?**

Yes, since it is included in the BBR energy performance requirements, but also through the Eco design Directive.

**51. Does the EPBD address the issue of embedded energy? If so, in what way?**

No

**52. Is demand response being stimulated at the individual building level and if so, how?**

On a narrow scale, but there is great potential. It is mainly driven by the energy companies' tariff models, not always rewarding investments in load management.

**53. What obligations are missing at EU level and national level, and at regional and local level to meet the goals of the EPBD?**

NA

**G. Links between the EPBD and district and city levels, smart cities, and heating and cooling networks**

**54. What are the best policies at district and city level for increasing energy efficiency and use of renewable energy in buildings?**

Local requirements in new construction, carbon dioxide tax and a limit on the number of emissions. It should be added, that the EU VAT Directive throws a spanner in the works when it comes to delivery to the network of self-generated electricity, and is an obstacle to net metering.

**55. Are there any separate (new) obligations set at city and district level missing from the EPBD which would help increase energy efficiency and use of renewable energy in buildings?**

NA

**56. How has the information exchange on smart technologies which contribute to compliance of the EPBD, been promoted in cities?**

[www.grow-smarter.eu](http://www.grow-smarter.eu)

**57. Are smart meters and their functionalities contributing to meeting energy efficiency targets and the proper implementation of the EPBD? Are other targeted meters for heat, gas and water have specific provisions such as those for electric meters needed?**

We do not need measurements at the household level for cold and heated water and heating, owing to the fact that it is not profitable.

**58. Has the promotion of smart cities, smart buildings, sustainable transport solutions, smart mobility, and similar initiatives been linked with the EPBD and its aims? If so, how?**

NA

**59. Have obligations been set at a national/regional level in relation to buildings and district heating and cooling, or in relation to buildings and storage? Why/Why not?**

No, it impedes competition and when the district heating plants become monopolists, several examples of unreasonable price increases follow, particularly when municipally owned energy companies are sold off and listed.

**60. What incentives are missing, that would help promote efficient district heating and cooling or meeting the goals of the EPBD?**

This will be taken care of by the market in Sweden.

**61. Have cost-optimal policies been devised that improve the performance of buildings so that they use less heating and cooling, while ensuring a decarbonised energy supply?**

NA

**62. Does the EPBD and its definition of NZEB reflect the requirements that could derive from the energy systems of nearly zero-emissions districts and cities?'**

NA

## **H. Awareness, information and building data**

**63. What do you think of the quantity and quality of information on the importance of energy efficiency provided to consumers by:**

**1. the European Commission?**

**2. national authorities?**

**3. regional authorities?**

**4. local authorities?**

**5. local companies?**

It is mainly small property owners that need support in the energy work and Sweden boasts a municipal and impartial energy advisory service. However, this needs to be developed, as property owners also require support on procurement, implementation and evaluation.

**64. Has the directive promoted information on opportunities for consumer-friendly smart meters and interoperable energy efficient appliances?**

NA

**65. What relevant building data has been collected at EU and Member State level, and city and district level? Who has access to this data?**

The Swedish Energy Agency is responsible for the national statistics, which generally are good. The National Board of Housing, Building and Planning monitors the follow-up of the energy declarations. Data is accessible.

**66. How can data on the energy performance of a building and its related renovation work, across its life cycle, best be managed and made available?**

By focusing more on measured values for buildings.

**67. Has building data harmonisation been achieved?**

It is unfortunately not harmonized, since the Swedish Energy Agency and the National Board of Housing, Building and Planning use different area concepts.

**68. Is there a need for a central EU database of EPCs and qualified experts?**

Yes, that would be interesting.

**I. Sustainability, competitiveness and skills in the construction sector**

**69. How does the construction sector cost-effectively demonstrate and check compliance with the EPBD while also upgrading the skill and knowledge of tradespeople and professionals?**

It is very important that the construction industry accumulates greater knowledge, as requirements are tightened, from construction workers to engineers.

**70. Would it have been useful to extend Eurocodes to include energy performance in buildings and other relevant aspects? If so, why?**

NA

**71. Are energy, materials, waste and water use addressed in the EPBD?**

NA

## **J. Building systems requirements**

**72. Based on existing experience, do you think the setting of minimum requirements in the EPBD for technical building systems is missing? Would have technical building systems minimum requirements contributed to the improvement of buildings' energy performances?**

The recommendations in the BBR are enough.

**73. Based on existing experience, do you think in the EPBD minimum requirements for technical buildings systems focusing on other factors than heating, air condition, large ventilation systems and domestic hot water e.g. certain building categories, building size, etc., is missing?**

No.

**74. Based on existing experience, do you think in the EPBD requirements is missing for regular inspections of the technical building systems to ensure:**

***a. that systems' performance is maintained during their lifetime?***

NA

***b. that owners/occupiers are properly informed about the potential improvements to the efficiency of their systems?***

***c. that replacement/upgrading of the technical building systems is triggered?***

**75. Have inspections required by the EPBD, been incorporated into or more tightly linked to other inspection/certification/energy auditing activities and schemes under other EU or national directives?**

We have a major problem with the pending clash of the law on energy declarations (carried out every ten years) on one side and the forthcoming law on energy audits of large companies (carried out every four years) on the other. As we understand it, the laws are governed by different directives, and if you are classified as a large company, you can avoid the law on energy declarations, as it is redundant, considering that the same thing is being checked.

**76. Are the requirements for building elements set by Member States optimised to avoid market barriers limiting the installation of building products complying with EU requirements/standards e.g., under eco-design requirements?**

NA

## **K. Operational management and maintenance**

**77. Based on existing experience, does the EPBD promote the key ways to ensure that buildings meet stringent efficiency targets in their operation?**

NA

**78. Based on existing experience, does the EPBD promote the best way to close the gap between designed and actual energy performance of buildings?**

NA

**79. Based on existing experience, are the provisions provided by the EPBD to stimulate a proactive, innovative maintenance market effective?**

NA