CEN/TC 250 Document - N 802

CEN/TC250
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Chairman

The Eurocodes and the Construction Industry
Medium-Term strategy 2008 – 2013
DOCUMENT FOR DISCUSSION AT THE CEN/TC250 MEETING IN PISA

0. Objectives of the present document

a) Define a clear time schedule for the finalization of the white paper on the Eurocodes

b) Clarify the procedures, structure, actors and timing for the further development of the Eurocodes

c) Define and clarify the programme, tasks and terms of reference for the further development of the Eurocodes

1. Genesis of the "white book" on Eurocodes

At the CEN/TC250 meeting held in Paris on 12-13 June 2008, a discussion took place between Mr. Vicente Leoz Argüelles and TC250 members, concerning the evolution of the CPD and the link between the Eurocodes and the future CPR.

The draft minutes of that meeting (doc. N781) mentions :

"He [Mr. Leoz Argüelles] believes that the significance of Eurocodes must be stated in a formal document. He added that it is the intention of DG Enterprise to maintain and support the role of Eurocodes.

The CHAIRMAN reported that he has started drafting the "white book" for CEN/TC 250 which will be completed at the end of the summer (September 2008)".

This was the starting point of the "white book". After many internal exchanges of views in September-October 2008, a preliminary draft, dated November 2008, was put on the CEN/TC250 Livelink (doc. N 792) and presented during the CEN/TC250 meeting in Malta (20-21 November 2008) for comments from TC250 members to be received before the 15th of December 2008.

In fact, the chairman received comments until the end of December and took them into account to establish a new version dated January 2009 which was sent to the DG Enterprise and Industry on the 9th of January, a few days before the ENC meeting (Brussels, 15th of January).

The National delegations did not have enough time to read and to comment the document before or during the ENC meeting. Therefore, the Commission asked for comments to be sent before the 1st of March. Nevertheless, the first draft of the "white book" on Eurocodes was considered by the Commission as a good starting point to establish the future framework agreement on further development of Eurocodes in liaison with CEN.

The "ENC version" of the "white book" was put on the Livelink (doc. N 798 - "The Eurocodes and the Construction Industry – Medium-Term strategy 2008 – 2013").

Comments have been received from ENCs of 9 countries : Belgium, Czech Republic, The Netherlands, Germany, Austria, Portugal, Denmark, United Kingdom and Sweden. In general, these comments are positive and encouraging. A new general agreement and a new general mandate should be established between the Commission and CEN before the end of 2009. A summary of the step towards a final version of the white paper is given in Table 1.

Table 1 – White Paper on the Eurocodes: Drafting, discussion and updating		
Date	Description	Action
CEN/TC250 Paris meeting 12-13 June 2008	Starting point for the White paper	Chairman of TC250 starts drafting with input from experts and JRC
CEN/TC250 meeting in Malta (20-21 November 2008)	Presentation and discussion of the White paper at the TC250 delegates	TC250 delegates to submit comments to be integrated into the version to present at the next ENC meeting
ENC meeting (Brussels, 15th of January)	Presentation and discussion of the White paper to the ENC National Delegates	ENC delegates to submit Comments before March 1st
Summer 2009	ENC comments and further TC250 comments to be integrated in the next version for a general agreement before the end of 2009	Chairman to prepare a final version to be submitted to all parties and stakeholders
End of 2009	A new general agreement and a new general mandate should be established between the Commission and CEN before the end of 2009	

2. Comments from ENCs

The comments received from ENCs on the first draft of the "white book" (CEN/TC250/N798) are annexed to the present paper. The first comments from TC members have not been incorporated.

In what follows, a short synthesis of the comments is proposed. A second version of the "white book" will be prepared before the end of 2009, taking into account as far as possible all comments and conclusions of discussions within CEN/TC250.

2.1 Evolution and Status of the Eurocodes

All comments agree with the preparation of a new generation of Eurocodes. Nevertheless, a stabilization of actual Eurocodes is strongly wished (even if corrigenda and amendments need to be published) until they are implemented and applied in all Member states.

The Eurocodes are like all other standards: they are basically of voluntary application and may be, totally or partially, imposed by national regulations. But, in any case, they will remain high level reference documents.

Concerning the style and content of the future Eurocodes, some aspects are stressed:

- to ensure a full compatibility between design rules and the 7 basic requirements of the future CPR to strengthen the development of sustainable buildings, even if the role of TC250 is not to develop standards in the field of sustainable construction ;

- introduction of a performance-based approach.

2.2 Reduction of the number of NDPs and simplification of the Eurocodes

All comments insist on a significant reduction of the NDPs and some comments ask for a simplification and shortening of the Eurocodes.

The reduction of NDPs is intended to ensure a better harmonization of National annexes. The "simplification" and "shortening" of Eurocodes is a real problem for which satisfactory answers have not yet been found. The following points should be kept in mind :

1) One major objective of the Eurocodes is to give rules to ensure the required level of structural reliability for construction works. But the main difficulty of this question is that what is too simple may be wrong, and what is exact is often too complex and unusable.

2) When the scope of EN 1990 was being drafted, experts and TC members wondered if the Eurocodes would be applicable to all types of constructions works. At that time, it was decided to consider that "*For the design of special construction works (e.g. nuclear installations, dams, etc.), other provisions than those in EN 1990 to EN 1999 might be necessary.*" (EN 1990, 1.1(2) Note). In fact, the boundary of their field of application could not be accurately identified, and it is now clear that the Eurocodes cover the design, with more or less additional rules, of the large majority of construction works. Therefore, the Eurocodes cannot give only "simplified" rules for basic cases.

3) The complexity of some equations or formulae is a temporary complexity. It is clear that the development of efficient and reliable software has not immediately followed the development of the Eurocodes. But this situation should be improved in the future.

4) Nevertheless, for limited and well identified fields of application, the new generation of Eurocodes should include as far as possible simplified rules/approaches to help small engineering companies in the framework of their everyday activity.

2.3 Development of technical documents for new materials

In general, all comments agree with the development of technical documents for new materials. Some nuances may be noticed in the proposals for priorities.

In fact, the priorities are not a real problem because :

- as explained in the "white book", it is intended to develop a medium-term (followed by a long-term) strategy without prioritisation of topics to be treated,

- from a technical point of view, the work will depend mainly on existing background documentation and on the motivation of the agreed working groups.

2.4 Assessment of existing structures

This topic remained controversial during a long time. In line with resolution 254 (CEN/TC 250, Malta, 20th and 21st November 2008), the work may start in the following conditions :

Subject: Assessment of Existing Structures.

CEN TC 250 accepts document N 784 as the basis for the initiation of work on the development of technical rules for the assessment and retrofitting of existing structures.

The resolution was agreed by unanimity.

Now, all comments from NTCs are more or less positive concerning the development of technical rules for the assessment of existing structures.

In any case, is looks superfluous to split the work in "short" and "medium" or "long term", because all documents will follow the procedure described in §4.

2.5 Background documentation

The problem of background documentation corresponding to actual Eurocodes has been evoked may times during the ENC meetings as well as the TC250 meetings. The best characterization of the need is given in the comment from the Netherlands :

The inheritance of knowledge of the old generation to future generations is a major point of concern. This knowledge carried by the present generation of experts, has to be laid down in reports properly to guarantee that their successors can contribute to future activities

efficiently and effectively. According to the Dutch standardisation institute (NEN), the European Committee should make budget available for this activity.

3. The future of the Eurocodes

The future of Eurocodes is summarized in Figure 1. It was clearly defined in doc. TC250/N 630 Rev 4 (February 2006). Actions corresponding to promotion/education, maintenance and harmonization do not need detailed explanations.

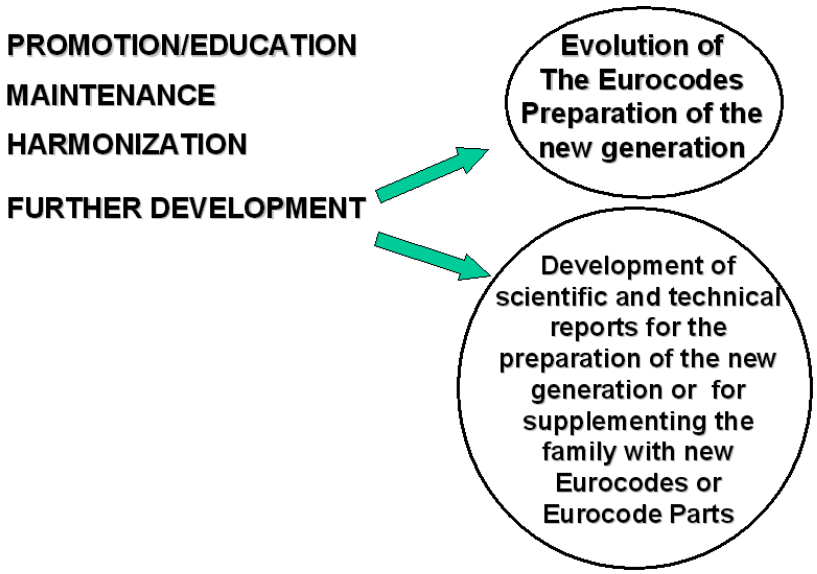

Figure 1

Further development includes :

- preparation of the new generation of Eurocodes,

- development of scientific and technical reports for the new generation of Eurocodes as well as the development of new Eurocodes/Erocode Parts supplementing the actual family.

These actions need a general mandate and specific mandates between the Commission and CEN.

3.1 Preparation of the new generation of Eurocodes

This preparation includes :

- simplifications (see § 2.2 above)
- clarification after feedback from designers,
- revision of serviceability criteria (imperfections and deflections),
- incorporation of the latest results of research,
- re-consideration of the status of certain clauses or annexes,
- improvement of the liaison with other European standards,
- evaluation of interoperability and contents as regards all basic requirements of the future CPR.

3.2 Further developments

The main topics are :

- assessment and retrofitting of existing structures (see 2.4 above), robustnessnew materials :

- structural glass
- FRP

- new types of structures : tensile surface structures,incorporation of ISO Standards in the Eurocodes family (atmospheric icing of structures, actions from waves and currents on coastal structures).

4. Publication procedure of technical documents

4.1 Development of the first generation of Eurocodes

The development of the first (actual) generation of Eurocodes followed 3 main steps :

- 1976-1990 : development and publication of documents (immediately called Eurocodes) established under the direct supervision of the Commission,
- 1990-1998 : development and publication of provisional Eurocode standards (ENV) by CEN, based on the previous documents and comments received during international enquiries,
- 1998-2007 : conversion of the provisional Eurocode standards into European standards EN by CEN.

All these documents benefited from the most advanced results of research and formulated by international scientific and technical associations. This process is summarized in Figure 2.

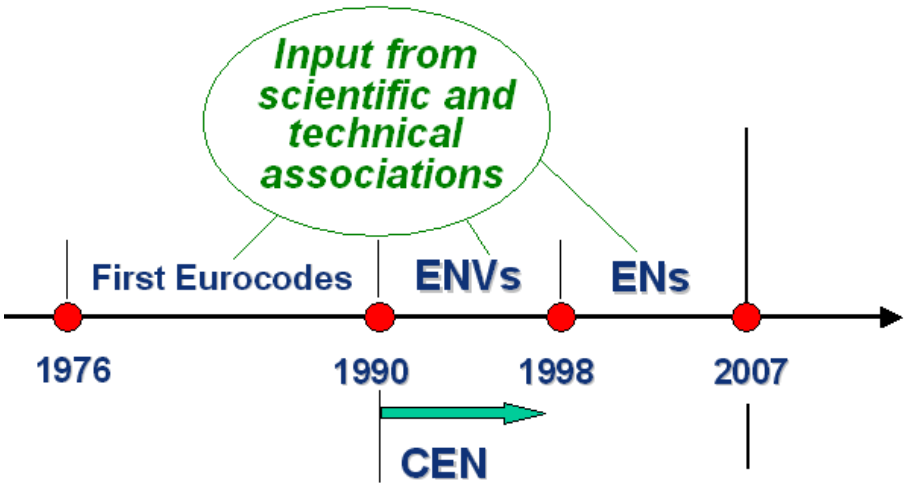

Figure 2

4.2 Development of the future generation of Eurocodes

The procedure, summarized in Figure 3, is in line with resolution 255 (CEN/TC 250, Malta, 20th and 21st November 2008) :

Subject: Development of new technical Parts of the Eurocodes for Glass, FRP and Membrane Structures.

CEN TC 250 agrees that the development of new Parts of the Eurocodes on Glass, FRP and Membrane structures should be achieved in steps, as follows:

1. *Preparation of technical rules in the form of technical recommendations as 'Scientific and Technical Reports' published by for example the JRC.*
2. *After acceptance of the 'Scientific and Technical Report' by TC 250, adaptation of it into a CEN Technical Specification.*
3. *Upon the agreement of CEN TC 250, conversion of the CEN Technical Specification into a Eurocode Part.*

The resolution was agreed by unanimity.

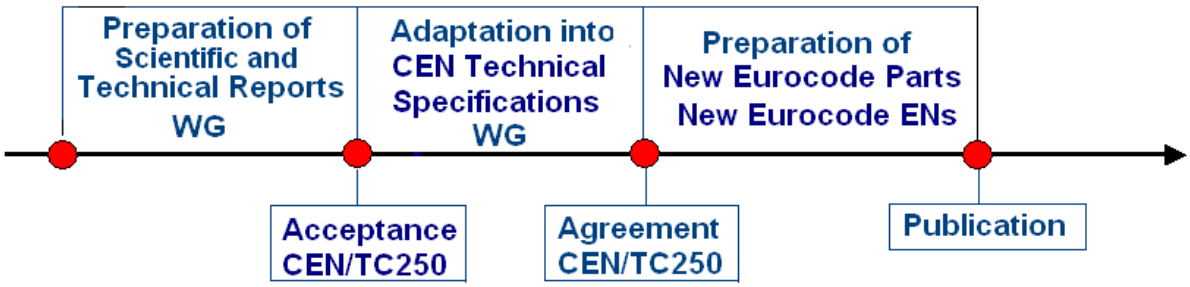

Figure 3

As a conclusion, the objective is not to draft immediately new Eurocodes or new Eurocode Parts, but to follow a procedure leading to a progressive agreement by CEN/TC250.

5. Organisation of CEN/TC250

In order to carry out the work which is described above, an evolution of CEN/TC250 organisation is suggested, including the appointment of 5 new Working Groups (in accordance with the organizational structure and responsibilities for standardization work – Internal regulations of CEN/CENELEC) in charge of the following items : Existing structures, glass, FRP, Membrane structures, Robustness. This organisation is summarized in Figure 4.

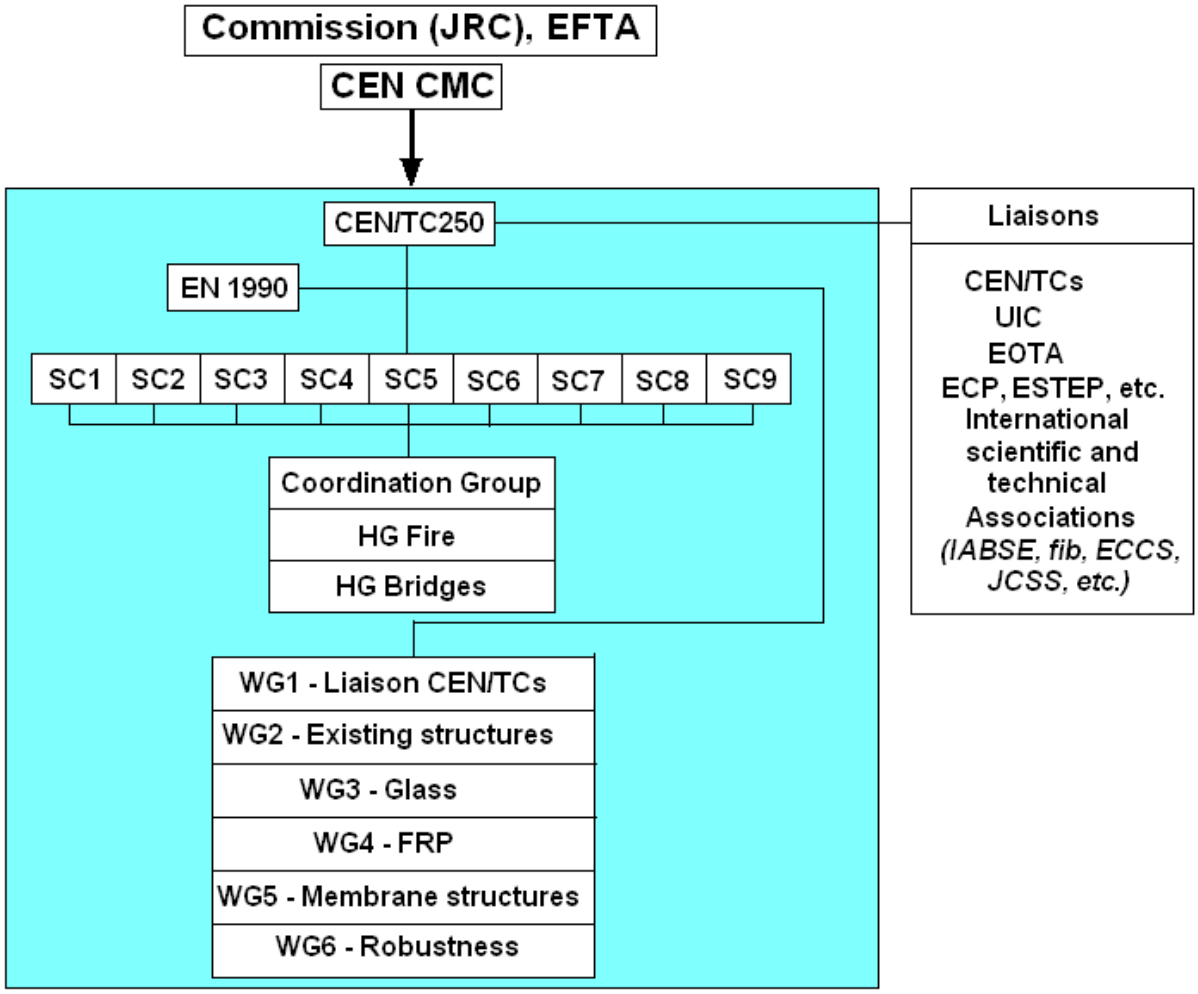

Figure 4

6. Tentative time-table

The following time-table (Figure 5) is a proposal established on the following bases :

1) withdrawal of conflicting national standards in March 2010,

2) publication of the new CPR in 2011,

3) no changes in the Eurocodes before 2015 (only corrigenda and amendments).

Thus, the preparation of the new generation of Eurocodes and of the new Eurocodes or Eurocode Parts would start in 2009-2010 and be ready for publication beginning after 2015.

This process can start with a general Agreement and a general Mandate followed by specific mandates between the Commission and CEN.

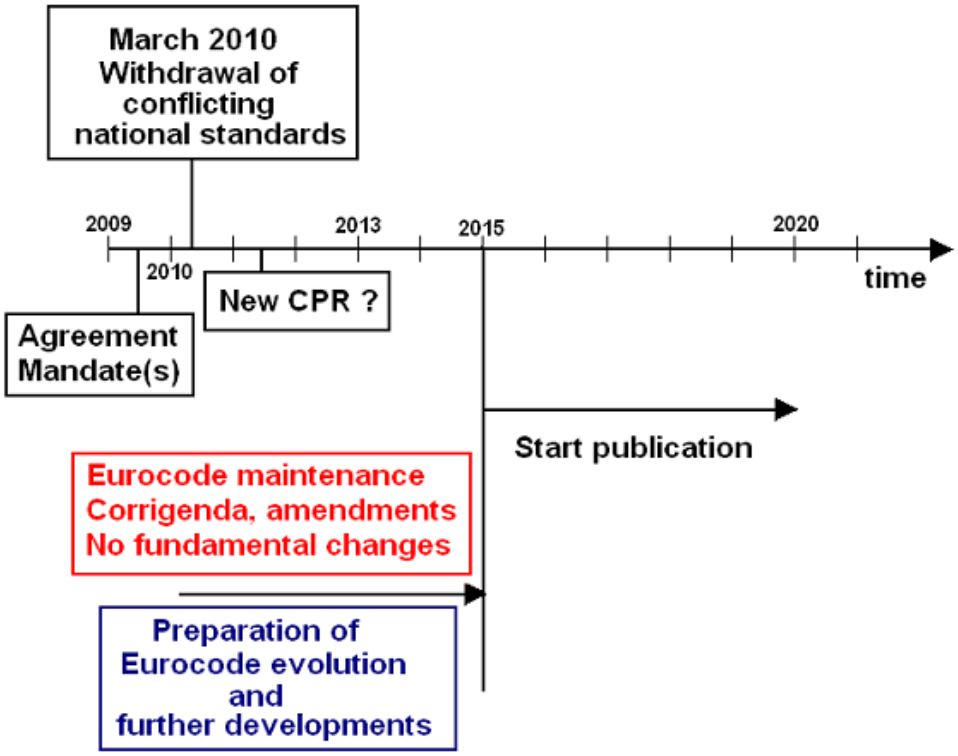
March 2010
Withdrawal of
conflicting
national standards
2009
2010
2013
2015
2020
time
New CPR ?
Agreement
Mandate(s)
Start publication
Eurocode maintenance
Corrigenda, amendments
No fundamental changes
Preparation of
Eurocode evolution
and
further developments

Figure 5

ANNEX
COMMENTS FROM ENCs ON THE FIRST DRAFT DATED JANUARY 2009
Doc. CEN/TC250/N798

ORIGIN	COMMENTS
Belgium	**POSITION ON THE «WHITE PAPER ON EUROCODES»** **from the Belgian ENC (Eurocode National Correspondant)** 1. The Eurocodes – including the National Annexes - (will) constitute in the coming years the only standards for construction stability and related BWR (Basic Work Requirements) in Belgium. 2. There is an about general agreement on the Belgian level for using the Eurocodes for works – including the National Annexes for national matters – even if the Belgian system does not provide that the use of the standards are mandatory for the law (there is a "moral" obligation with the 10-year responsibility for the engineer to use the most adequate and new standards). 3. There is also an agreement for using the Eurocodes for the CE marking, because they are a pre-requisit for exchange construction products between European country in a clear and safe way. There is also in Belgium an agreement to search a better harmonization by diminishing in the future the number of NDP, using therefore the database and experience of ISPRA, but also giving more "elasticity" to define the NDP. When needed, the discussion on some subjects must be go more deep (why using a NDP) and more wide (a NDP can cover some other traditions in a country than pure technical problems). In this sense, each present NDP should be characterized as being "of national matter (security, climate)" or not. This can also make clearlier the use of the Eurocodes in overseas countries (they have only to fix the "national NDPs". 4. The present situation, where the maintenance of the Eurocodes is not funded, creates a very difficult situation. We need anyhow the making of good corrigenda and amendments, the making of Eurocodes for existing constructions and some new materials (glass, fiberconcrete, tensile works), without changing anything to the ground of the rules until 2013. A new mandate is in our sense needed, based on the "existing BWR" and providing that a "mixed group" of some TC's of CEN will make proposals about the sustainability question. This proposal can than be supported with a complementary mandate. Brussels, 30 januari 2009, PS Complementary information on these points is possible.
Czech Republic	26th February 2009 **Comments to the document "The Eurocodes and the construction industry- medium term strategy 2008-2013"** The document "The Eurocodes and the construction industry" prepared within CEN/TC 250 is focused on needs for further evolution of Eurocodes including maintenance, further harmonization and new developments. We have comments to selected clauses or parts of the document: **Clause 1.3** Durability concept in Eurocodes should be developed considering also new ISO 13823 (the durability limit states are missing in Eurocodes). Robustness - the definition of robustness and guidance for its quantification and assurance should be given in Eurocodes. Findings achieved within the development of the COST Action TU0601 Robustness of structures should be taken into account.

	Clause 2.1 The maintenance of Eurocodes is an important activity. However, the proposed plan should not lead to significant changes in all Eurocodes. **Clause 2.2** Further harmonisation of Eurocodes and also harmonisation of Eurocodes with other European standards is needed. The collection of NDPs and their expert evaluation in co-operation of CEN/TC250, JRC and CEN Member states should be done as soon as possible. The number of NDPs in Eurocodes should be considerably reduced. The rules for combinations of actions given in various parts of Eurocodes should be harmonised and transferred to basic EN 1990 (see e.g. inconsistencies in Annex A of EN 1991-4 with respect to EN 1990). **Clause 2.4.3:** Incorporation of ISO 21650 Actions for waves and currents on coastal structures into a new Part of EN 1991 is useful. The guidance concerning water actions should provide details on hydraulic actions on structures e.g. in industrial devices, power stations, dams, harbours. The values of combination factors ψ_i for water actions (considered as variable actions) should be given in EN 1990. Incorporation of ISO 12494 Atmospheric icing of structures into a new Part of Eurocodes and the development of a new European icing map is needed. The actions due to icing given in EN 1993 should be transferred to the proposed new Part of EN 1991. **Clause 3.2.1** Further research in earthquake engineering is needed including revision of some procedures and currently proposed formulas (e.g. in EN 1998-3). **Clause 3.2.2** Research in fire engineering and development of new procedures are urgently needed. **Clause 3.2.3** EN 1991-1-7 should include provisions for dust explosions. **Annex A** gives proposal for the assessment and retroffiting of existing structures. The Eurocodes should be focused mainly on rules with respect to the basic requirements 1, 2, partly also 4 and 7. Some guidance on the assessment of heritage structures should also be given based e.g. on new Annex I Heritage structures of ISO 13822. Other recommendations: – A new Part of Eurocode for the assessment of the load bearing capacity of new and existing bridges should be developed. The basis may be found e.g. in national standard ČSN 73 6222. – The rules for the design of tunnels in persistent design situations should also be given in Eurocodes (presently models for explosions in tunnels are provided in EN 1991-1-7 only).
The Netherlands	Dear Mr. Andersson, Referring to your request to comment on the CEN White book in last ENC meeting, I have consulted NEN (Dutch standardisation institute) and TNO (Research institute for applied sciences / construction) on the matter. Below please find the Dutch view on both the evolution of the Eurocodes and the widening of the Eurocodes' scope. **Evolution of the Eurocodes** The work related to further evolution of the Eurocodes as described in the CEN Whitebook, will have a significant contribution to the acceptance of these standards by the construction market. Regarding the four strands mentioned in the White book, we suggest the following: • Maintenance: *need to monitoring* An essential aspect to be considered, is the communication between the users of the standards and CEN. Within the Netherlands as in many other Member States, a helpdesk is installed which not only answers questions but also gathers all kind of comments from practice. These will be communicated with the relevant subcommittees of CEN/TC250. We suggest to monitor the performance of this communication model and evaluate its effectiveness in due time, e.g. after two years. • Harmonisation of NDP's *: within the time schedule of the revision*

	The collection and evaluation of the NDPs adopted in the Member States by JRC and CEN/TC250 is an important task to contribute to the further harmonization of the regulations. The Netherlands propose that the reduction of the number of NDPs is fitted within the schedule of revision of the Eurocodes. • Further developments: *open the market for SME's* The White book does not mention the needs of SME markets. The Netherlands support initiatives to incorporate more simplified application rules within the Eurocodes. The initiative to develop simplified application rules should be open for any interested party, e.g. from European sector associations, from local national organizations, etc. Parties involved should be encouraged to make arrangements for the funding. Proposals have to be developed in close cooperation with the Work Groups of CEN/TC250. This will support SME's to get a stronger position within the European market. The Netherlands support the idea of developing the Eurocodes for construction materials not yet covered (glass, FRP, etc.). Special attention has to be given to securing the funding. At this stage the Netherlands do not give priority to the development of new parts of the Eurocodes for actions on structures. • Promotion: *remind the background documents* Promotion also has to deal with recording of all relevant background knowledge. The inheritance of knowledge of the old generation to future generations is a major point of concern. This knowledge carried by the present generation of experts, has to be laid down in reports properly to guarantee that their successors can contribute to future activities efficiently and effectively. According to the Dutch standardisation institute (NEN), the European Committee should make budget available for this activity. • Additional remarks: *Eurocodes and CE marking* CEN did not mention in its White book the necessity of establishing unambiguous links between the Eurocodes (calculation) and the harmonised European products standards for CE-marking (test methods). However, the importance of compatibility between Eurocodes and product standards was stressed in the Commission's Recommendation (2003/887/EG). Various Technical Committees and CEN/TC250 have made progress in this area, but there are still missing and/or contradictory links. The Netherlands recommend to complete this harmonisation task within a period of 5 years (schedule of revision). **Widening the scope of the Eurocodes** The current Eurocodes, dealing with Basic Work Requirement (BWR) 1 and 2 (partly) - despite its long and winding road to European harmonisation - may after the event, be considered as a European success of technical harmonisation. Its power and meaning for the internal European market is mainly based on: • the performance approach, together with the validation concept; • the introduction of principles and application rules; • the link between standards for BRW's and product standards. We suggest to transfer these principles of the Eurocodes for construction to the other standards for BRW's, including sustainability. By doing so, a common European technical language for both BRW standards and product standards can be established for the (fragmented) construction sector The performance approach is a necessary condition to create sufficient flexibility for the designers to go through the 'cyclic' design process. However, to serve the needs of SME's - next to the abstract performance based concept - simplified application rules should be encouraged in all the standards for BRW's. As already said, this possibility is anchored in the Eurocodes for construction by the concept of principles and (simplified) application rules. A system of Eurocodes for all BWR's will strengthen the development of sustainable buildings. Sustainability is rather to be considered as a generic horizontal requirement, applicable on all other BRW's In each specific BWR Eurocode the impact of sustainability should be covered in such a way that appropriate information

	becomes available for the sustainability evaluation at the overall building level. The development of a new approach to quantify the performance of a building in terms of a sustainability 'footprint' is discussed within various international groups like CEN/TC 350. Since there is not a single sustainability evaluation and validation method available (yet), a well thought generic view on the scope and methodology is necessary to make fruitful steps forward. **Steps to be made** To make progress, we propose that the Commission establishes a task group for practical implementation, existing of representatives of Member States, research institutes and CEN under presidency of the Commission. This group should first evaluate the inventory work, done by WG 206 and next prepare the methodology according to the concept of Eurocodes for construction (including sustainability). The group may have a horizontal nature (ability to communicate with various groups and platforms), but its members should be experienced in all technical aspects of the performance based approach (or at least be able to communicate with experts in the field). Once the methodology of functional specifications, performance requirements, validation techniques, simplified application rules and evaluation on sustainability is developed, it can be used for one or some Pilot BWR's and next be extended to all BWR's In my former letter, I expressed already concerns on the current fragmentation in European building research (waste of money). In the Dutch view all the activities on technical research and regulations should fit in a general performance based framework of technical harmonisation. Future research activities should focus on better collaboration (up to a European level) between the different National research institutes as well as building partners from various European networks and JRC. For this to be achieved - next to the Commission's Recommendation for Eurocodes (2003/887/EG)- we propose a second Recommendation to be published by the Commission on further evolution of the Eurocodes. This Recommendation should stress the importance of the performance based approach (as applied in the Eurocodes for construction) and encourage again Member States to upgrade their national programs to a European level. The inventory by CEN is a good start to identify the needs for additional research in technical harmonisation. In this framework also the programs of JRC, National programs and European networks should be evaluated. Research should idealistically anticipate standardisation work. However, it is not necessary that they wait on each other. Research can improve existing standardisation in an iterative process. To start with the implementation as suggested above, one or two Pilot project could be elaborated, based of the performance concept. We suggest to start with BWR 6 'Energy and heat retention', due to its natural link with sustainability. BWR 2 'Safely in case of fire' is a good candidate for a second pilot, because this BRW is already (partly) covered by the Eurocodes for construction. Kind Regards
Germany	**German comment on the draft of the "White Book" of the Eurocodes: "The Eurocodes and the Construction Industry, medium-term strategy 2008 - 2013"** Dear Mr. Andersson, At the 17th ENC meeting on 15 January 2009 the European National Correspondents were asked to comment on the draft of the White Book until 1 March 2009. The following remarks are coordinated with the representatives of the authorities of the Federal Government and Laender Governments. The German authorities welcome the so-called White Book on the Eurocodes which, besides a review of the development of the Eurocodes and an overview of the current state will mainly give a preview of the further development of this comprehensive standard package. A substantial reason for drafting this White Paper is to win the European Commission to further support the work on the Eurocodes. The authorities stress that also from the German side the project of the Eurocodes at

	its current state and the necessity of maintenance and further development will be approved and supported. We would like to follow the request for political and financial support by the Commission. The also critical notes following hereinafter concerning some points do not question the positive overall attitude towards the Eurocodes; they are to be merely understood as constructive criticism in order to ensure lasting success for the common project. The essential points are summarized in chapter 2: Points 2.1 'Maintenance', 2.2 'Harmonization' and 2.3 'Promotion' represent the current tasks for the near future of the Eurocodes; they are supported without restriction by the German authorities. These points alone already justify the further support of the work on the Eurocodes by the Member States and the Commission. Without ensuring maintenance and further development it is not possible to implement such a comprehensive standard package in the Member States, which in the near future is to replace national design rules in large areas of construction. One of the focal points besides the usual error correction should be the simplification and clear shortening of all Eurocodes, in order to increase the user's acceptance even more. The further harmonization, which mainly consists of reducing national parameters and national methods of calculation, serves the goal to obtain as many common rules as possible. We attach much importance to the advertising campaign for the application of the Eurocodes inside and outside the EU in order to increase the acceptance and the degree of awareness of these standards and to furthermore strengthen the competitiveness of the European economy outside Europe. Re point 2.4 - Further Development - the opinions of the German authorities are somewhat more reserved than stated in the White Paper. We support the development of common rules for construction materials not yet covered by the Eurocodes, however, we think that only design rules for materials and constructions may be laid down in a standard for which there is already sufficient experience. In the case of very new and innovative construction materials or types of construction experiences should first be collected with approvals before these pass into a standard. Besides, the regulations on the construction products themselves are not a matter of the Eurocodes but of the harmonized product specifications according to the Construction Products Directive. At this point we want to emphasize the importance of compatibility between Eurocodes and product standards. This has to be taken into account by the various Technical CEN Comities but a consideration in the Mandates would be very helpful. The drafting of harmonized technical rules for existing construction works is critically assessed by the German authorities. On the one hand harmonized assessment regulations for the determination of the overall state and the load-bearing capacity of the existing fabric of the building would be conceivable and welcome and on the other hand - as update of EN 1990 - uniform stochastic methods to diminish partial safety factors with known action effects, dimensions and material strengths or limited residual working life. On the other hand the application of design-oriented methods of complete construction works on the basis of current design standards is from the German point of view not possible. In this regard we completely share the attitude stated in Annex A 2(5). The development of common European rules in the fields of protection of the environment and health protection, protection against noise, thermal insulation as well as the sustainability is to be appreciated as well. However, there are already many activities outside TC250. Whether TC250 should get engaged more here or is even better qualified than others remains to be checked in the individual case. At any rate, however, where design according to the previous Eurocodes affects the other essential requirements, partial aspects from these requirements or interfaces to other standards could be taken into account when maintaining and updating the Eurocodes. For example the results an insights of CEN TC350 should be respected during further development of the Eurocodes.

	Kind Regards
Austria	Vienna, 24 February 2009 Dear Mr. Calgaro, We read very carefully through the document "The Eurocodes and the Construction Industry - Medium-Term Strategy 2008-2013" and would like to give you some first comments on this paper. **General** From our point of view the main target for the medium-term strategy should be on **further improving the existing Eurocodes** (all parts) with the final goal to establish the Eurocodes as the best standards not only in Europe but worldwide. Thus, strong emphasis should be put on the **reduction of inconsistencies** between the different Eurocode parts or the Eurocode parts and harmonised European product standards as well as on **harmonisation** and finally **reduction of the NDPs**. This should be, supported by the excellent work of JRC in this context, the first **priority** for the years to come. Much money has already been invested, also by the single Member States, but **additional expert discussion** - and in this context funding also from the EC - is very much needed as the publication of the next generation of Eurocodes in 2015-2020 should guarantee for standards with an even higher quality and more transparency and harmony as far as design rules, models and parameters are concerned. **Basic studies and research needs for the development of guidelines and rules for materials not yet covered by the Eurocodes** As far as materials not yet covered by the Eurocodes are concerned we would find the development of a **Eurocode on structural glass** quite useful. FRP's, e.g. lamellas for strengthening of structures, are usually already covered by technical approvals, thus we don't see the need for a standard for this group of materials. The inclusion of ultra-high performance and self-compacting concrete into EN 1992 is supported. Of course, material parameters would have to be defined in product standards first. **Research needs in structural behaviour** The development of **evolution models and assessment of existing structures** including life-cycle assessment are of importance as the current Eurocodes are mainly valid for the design of new structures and problems have already been encountered, at least in Austria, as far as the (earthquake) assessment of existing structures is concerned. Additional guidance is needed in this field. Many national activities, also as far as bridge assessment and structural behaviour are concerned, have already been carried out, which could be the bases for a standard in this field. By contrast, we don't see the need for a standard for membrane structures as they are special structures which can only be designed by experts in the field. **Sustainabillity in construction** The subject of sustainability is without any doubt of utmost political importance, but from our point of view it is unclear how this subject should be covered by a structural Eurocode. We see that CEN TC 250 would be the wrong group to deal with this matter as - among others - mainly questions of building physics and material science are concerned. CEN TC 250 should clearly focus on structural design issues with the focus on high quality structural design standards and not spread into other fields which certainly are of importance but out of scope of the work of CEN TC 250. Finally, I would like to stress that - as you know - Austria strongly supports the introduction of the Eurocodes and we are very happy to announce that starting at the beginning of June 2009 only the Eurocodes are used for the design of new structures in Austria. Best regards,
Portugal	MEDIUM-TERM STRATEGY 2008 – 2013 FOR THE EUROCODES EVOLUTION

	Following the presentation of the so-called “White book on the Eurocodes” presented at the 17th ENC meeting held on 2009-01-15 in Brussels, written comments from the members of ENC about its contents were asked. Portugal considers that the work on the Eurocodes must continue and, for that, a general agreement between the European Commission and the European Committee for Standardisation (CEN) on the scope of the work that is needed, together with a framework Mandate from the Commission to CEN concerning the execution of a standardisation programme on further development of the Eurocodes. The strategy presented for the evolution of the Eurocodes for the 2008-2013 period is generally supported, namely in its four main strands: Maintenance, Harmonization, Further development and Promotion. Maintenance is a key issue for the immediate phase of implementation / application of the Eurocodes in Portugal, programmed to be finished till 2010 and already in force in several countries. It is to be anticipated that, following to the full application of the Eurocodes, further Amendments and Corrigenda other than the ones in progress will be needed. *Further Harmonization with the reduction of NPDs is also a primary goal. It is certainly a heavy task, demanding appropriate means and expertise to be achieved.* Further development of the Eurocodes is an obvious need. The world is changing fast and the Eurocodes must “follow” these changes. If the development of the Eurocodes does not start in short time, with an appropriate program and schedule, in the near future the Eurocodes will certainly loose its status of “the best structural codes in the world”. Promotion of the Eurocodes is also in due course with reported success and is certainly a mean of strengthening the position of the European Community in the world. Concerning the issue of the *Eurocodes and sustainability in construction* it seems that, although these issues are of course already included in the Eurocodes (e.g. durability) a lot of improvement is needed. In fact the paradigm of structural design must be changed in order to include explicitly the environmental aspects. Further to design structures to be safe, economic and durable, a new design philosophy must be developed to include from the start the environmental concerns. The concepts of best available techniques (BAT) must be clearly introduced. These changes are needed not only for standards like the Eurocodes, but to every other type of CEN standard. The task of adapting all CEN standards to meet the goal of the sustainability in construction is an “horizontal job”, and certainly CEN TC250 must be an active part of this task. Finally the time-table proposed for the long term strategy up to 2020 is also generally supported. Portugal considers that a period of at least 5 years is needed to consolidate the application of the present generation of the Eurocodes, and so the future generation should not be published before 2015. LNEC, 2009-02-27
Denmark	**The Danish position to the White Book . The Eurocodes and the Construction Industry.** *Dear Sir* The Eurocodes and the Construction Industry issued January 2009 by CEN/TC250 and JRC is dealing with the medium-term strategy 2008 – 20013 for the work on Eurocodes in CEN/TC 250 and its subcommittees. The paper describes the present situation and proposes: • Work on existing Eurocodes • Work on new Parts of Eurocodes • Including of sustainability in the Eurocodes, according to the new basic requirement no.7 in the coming Construction Product Regulation

	The Danish position to the proposed activities is as follows: **Priority 1** **Work on existing Eurocodes** Work on existing Eurocodes must be given the highest priority. A time table supposing the next generation to be issued in the years 2015 – 2020, seems a little optimistic, as the work has to be very much influenced be experience from the industry. In the paper it is pointed out, that the work must be based on maintenance, harmonization and further development. We agree to that and we want the work to be specially focused on clarifications and simplification with the aim to make the codes shorter and more user-friendly – a way to overcome different views on what should be included in Eurocodes may be more use of informative annexes. Furthermore we also want to include coordination. The coordination shall be between the Eurocodes (e.g. different use of safety format in steel and concrete code) and between Eurocodes, product standards, material standards and execution standards (e.g. it is not acceptable with product standards containing safety factors). It is necessary for CEN to find a method for this coordination and it should be a premise for funding of the further work. **Priority 2 Work on new Parts of Eurocodes** Work on new Parts of Eurocodes is given a secondary priority. The method to develop the new Parts in steps maybe ending with a conversion into Eurocode Parts seems to be reasonable if the material and the situation is matured for such a Eurocode Part. Denmark find that work on glass and FRP would be of interest and the work could maybe lead to new Parts of Eurocodes. Very high performance concrete is too diffuse explained, but generally it has to be part of Eurocode 2. Denmark does not see any reason for a part on membrane structure. The Eurocode system is a material based structural code system and we want to keep that system. Assessment and retrofitting of existing structures does not need a Eurocode Part. Strucural design has to follow the same Principles and Application Rules as new structures – only the safety problems could maybe be addressed in EN 1990, Basis of Structural Design. If anything has to be added in the existing Parts of Eurocodes, it should be as informative annexes. **Sustainability** No doubt, sustainability is a very important subject, but generally sustainability is a question of overall assessments involving a lot of other subject which are addressed in Life Cycle Analysis etc. The paper is very weak on the content on sustainability and does not illustrate why CEN/TC 250 should be a major player in this field so we do not want CEN/TC250 to take any initiative on this subject. *Yours sincerely*
United Kingdom	**THE EUROCODES AND THE CONSTRUCTION INDUSTRY** **MEDIUM-TERM STRATEGY 2008 – 2013** **Comments from the United Kingdom** **Introduction** At the Eurocode National Correspondents (ENC) meeting on the 15th January 2009 two documents were introduced:- • The Eurocodes and the Construction Industry – Medium Term Strategy 2008 0 2013 • Eurocodes for sustainable construction National comments were requested for these two documents by the 1st March 2009. The comments below relate to the views of UK on the strategy document. The UK in

providing the comments below has consulted a broad field of committees and people involved in the Construction Industry.

Eurocode Strategy document

UK's main views on the **Eurocode Strategy** document are as follows:-

1. As a principle CEN/TC 250 (structural Eurocodes) must restrict itself to the Scope that it has, and not try to do work, as the strategy document implies, on topics where the expertise is outside CEN/TC 250. This view was made by numerous delegations at the ENC meeting in January 2009.

2. The text concerning **"lead markets"** (e.g. Paragraphs 1.5 and 2.4.2) needs to change. The UK, read this as being an offer by CEN/TC 250 to organise Eurocodes for all 6 or 7 basic works requirements. The strategy document needs to stress that, only the CEN/TC250 committee framework is being offered. The impression still remains that CEN/TC250 think that it should do the work. The text needs adjusting to dispel this impression.

3. The strategy needs to give top priority to ensure a **smooth implementation of the Eurocodes** by Member States. As the use of the Eurocodes for design vastly increases in the short to medium term, finding errors , interpretation questions etc. will greatly increase. Before CEN/TC250 considers increasing the scope of the Eurocodes for other materials it should ensure the present Eurocodes get the required maintenance through corrigenda and amendments as necessary and without delay. This should be a top priority item.

The attempt to harmonisation, by reducing the NDPs also requires a higher priority than working on new materials/types of structures covered below. This is a very high priority to the manufacturers of structural products and components.

4. Regarding the scope of new work, UK feel that a Eurocode on **structural glass** should be of high priority, but work on **fibre reinforced polymers** and **membrane structures** should be of a lower priority and more for the longer term.

5. Regarding the **assessment of existing structures**, European opinion is strong that this needs to be developed and the UK supports this view. However this is a medium to long term objective and as a start, EN 1990 should include an Annex on the Basis of Design for the Assessment of Existing Structures.

6. Regarding **sustainability**, Chapter 4 of the Strategy document gives the impression that structural engineers (through CEN/TC250) should take the lead in this in the CEN committee structure. The UK considers the real expertise on this topic is elsewhere, particularly within CEN/TC350 (sustainability of construction). The Eurocode strategy document should reduce the scope of this Chapter and propose the development of principle clauses, possibly in EN 1990, providing the designer with high level requirements to consider.

7. The UK agrees that buildings are one of the key areas in which savings in energy use can be found. However, the implication that this is a main concern of TC 250 is wrong. Certainly CEN/TC250 should be aware of any structural and construction implications and offer help and advice where applicable. A representative from TC 250 could be a member of the appropriate TC 350 committee and report back to TC 250 accordingly. Also the main source of advice to the appropriate sustainable committee is likely to come from elsewhere and not the membership of TC 250. Although the membership of TC 250 is keen to be ware of sustainable issues, in the opinion of the UK, it does not have the expertise to lead on this topic.

8. Chapter 4 needs a very basic edit recognising CEN/TC250's limited involvement on sustainability. Consideration needs to given in removing Chapter 4 altogether and have a short section on sustainable construction in Chapter 1

Eurocodes for sustainable construction document

9. The UK have not at this stage given comments on the **Eurocodes for sustainable construction** but the scope of the document needs reducing to adhere to the final points made on the Eurocodes and the Construction Industry - medium term strategy document.

	27th February 2009
Sweden	**Comments on evolution of the Eurocodes** Dear Mr. Andersson, Referring to your request to comment on the CEN White book in the last ENC meeting you will find my as a member of ENC view on - the evolution of the Eurocodes and - the widening of the scope of the Eurocodes **Evolution of the Eurocodes** • Maintenance: We agree with the comments from Netherlands. • Harmonisation of NDPs: We agree with the comments from Netherlands but we will point out it is MS decision if harmonisation of NDP will be done. • Further developments: We agree with the Dutch comment and we will underline the needs for the market of SMEs. Sweden also supporting Commissions suggestion for including actions from ice and sea loads in Eurocodes. • Promotion: We support Commission about promotion and also the Dutch comment about background information to Eurocodes. • Eurocodes and CE-marking: We support the Dutch comment. **Widening the scope of the Eurocodes** First of all it is important to improve and maintain the existing Eurocodes. We are not convinced at this stage that it is wise to widen the scope to sustainability and we agree to the Dutch comment to investigate more and also to coordinate with the WG for sustainability under Lead Market Initiative before starting with Eurocodes for sustainability. For the other requirements on product level we think Commission should make a priority and start with one or two more requirements for example no. 6 energy or no. 5 noise. Best regards