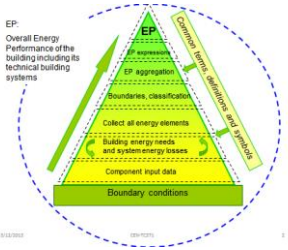
European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung



Revision of the EPB Overarching Standard EN15603 (future EN-ISO 52000-1) Annex A-B approach and expected time schedule

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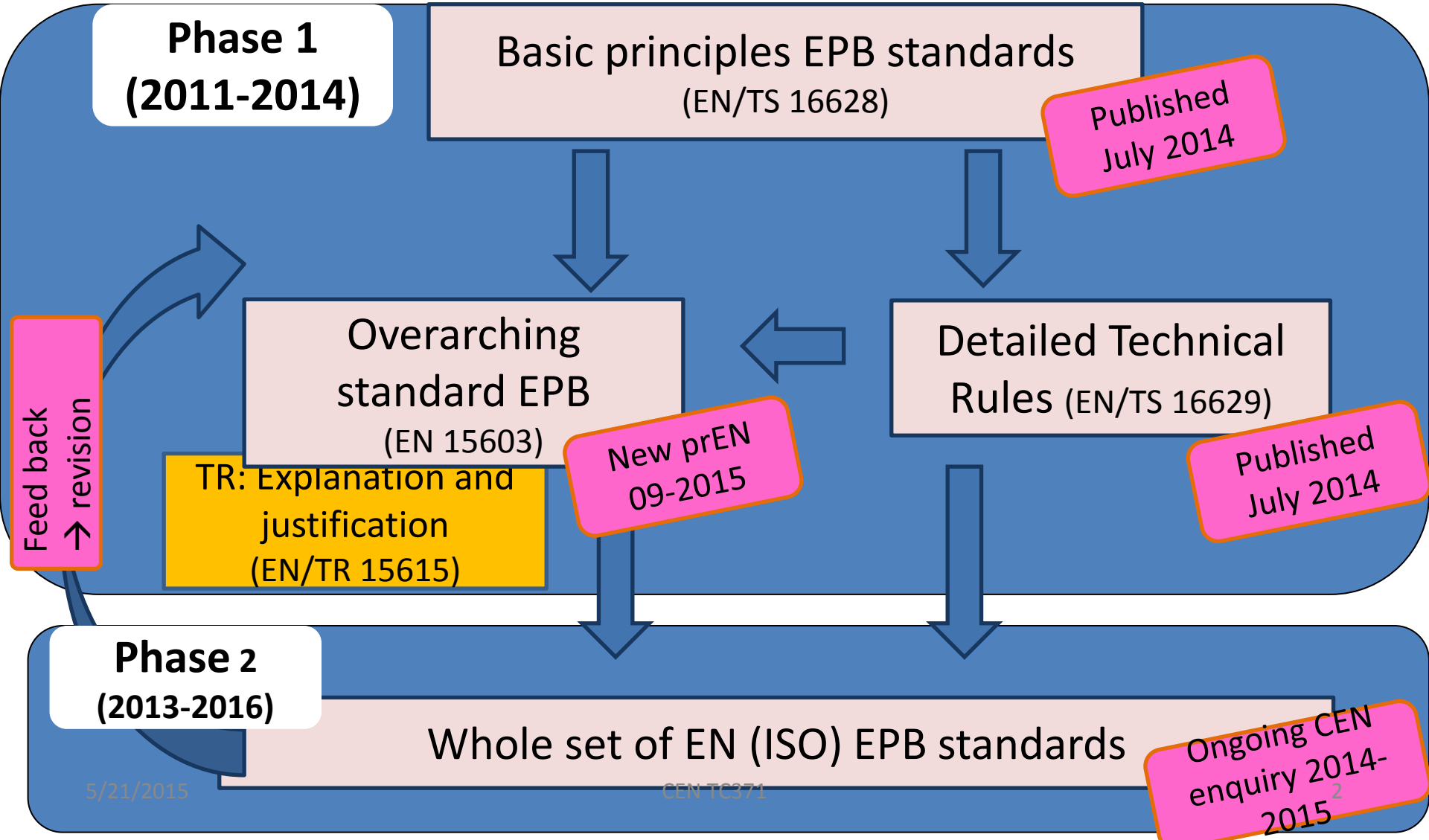
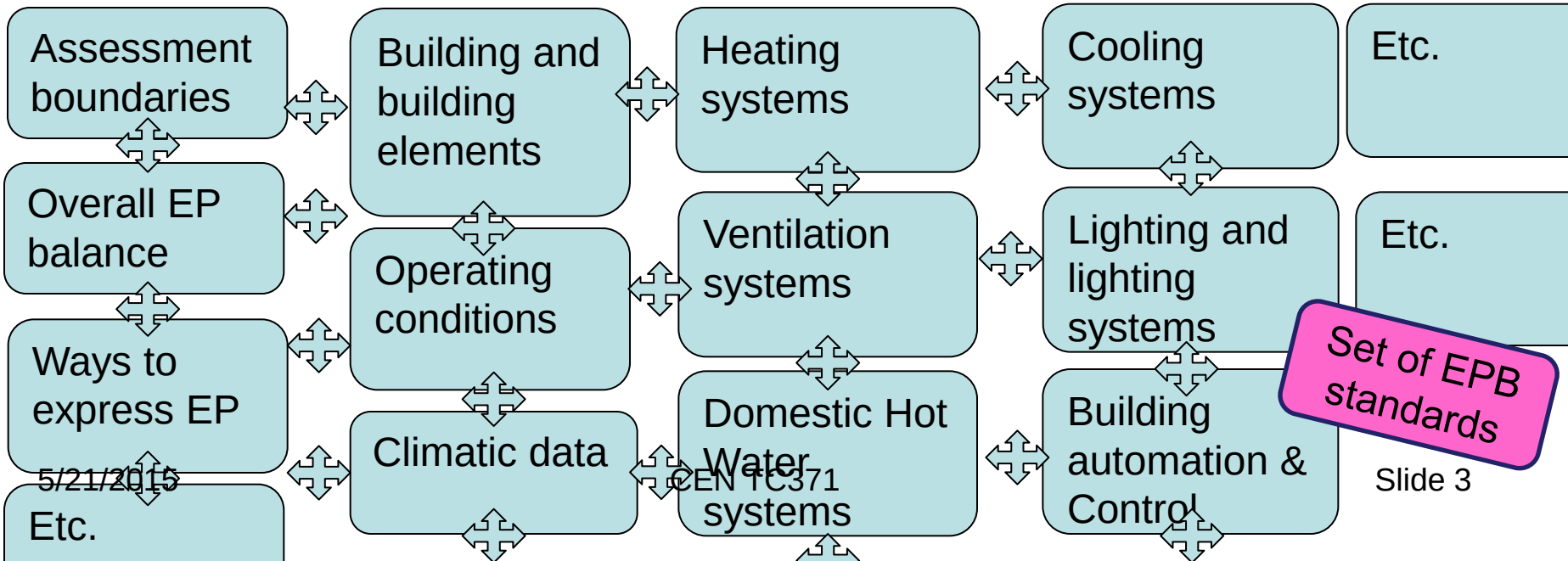
CEN project on EPB standards development



Overarching modular structure

- **Matrix of modules and submodules**
- **Common terms, definitions and interactions between the modules**
- **Overall energy performance**



Set of EPB standards: unambiguous but flexible (allowing national choices, boundary conditions and input data)

➔ Each EPB standard contains:

- Annex A (normative): template for choices and input data needed for using the standard
- Annex B (informative): informative default choices and input data
- In general:
  - Each individual user of the EPB standard is free to create his/her own data sheet according to the template of Annex A
    (~ replace the default choices and values of Annex B)

Explained in a note in each Annex A and Annex B

“

NOTE

In particular for the application within the context of EU Directives transposed into national legal requirements.

These choices (either the default choices from Annex B or choices adapted to national/regional needs),

but in any case following the template of this Annex A

can be made available as National Annex or as separate (e.g. legal) document.

”

In the new draft OAS and other EPB standards:

- **National cover page and the Introduction text in the EPB standards:** this text allows the NSB's (MS's) to include information regarding the position of the EPB standard in their national regulation, version indication etc…
- NSB's can publish a National Annex to each EPB standards where they make use of the Annex A template.
- A National Annex **is not** an Annex A.
- A NA could include more additional information! More National Annexes could be developed, e.g. for different building functions etc…

In the new draft OAS and other EPB standards:

- **it is more clear that the default values and options given in the Annex B are informative**
- more explicit applicability and visibility for the Monthly Calculation procedures although the standard will continue to support hourly procedures.
- more clarification on how the partitioning and assessment boundaries should be handled

how to interpret the use of national defaults or options according Annex A?

- this can be done by just filling in all choices and defaults
- there is all freedom to refer to procedures that will produce these values
- By just providing a single default value (in Annex B in the OAS) on a certain issue doesn’t mean that the (National) Annex couldn't include or refer to a procedure to asses this value
- Annex A allows that default values are derived from national protocols/legislation
- There could be more completed (filled in) Annex A : for different use (EP-certificate, funding schemes, etc.)

The main target group of this standard are all the users of the set of EPB standards

- It is expected, if the default values and choices in Annex B are not followed due to national regulations, policy or traditions, that:
  - Either the national standardization body will consider the possibility to add or include a National Annex in agreement with the template of Annex A.
  - Or the national or regional authorities will, in the building regulations, reference the standard and prepare data sheets containing the national or regional choices and values, in agreement with the template of Annex A.
- Further target groups are users of the voluntary common European Union certification scheme for the energy performance of non-residential buildings (EPBD art.11.9) and any other Pan EU parties wanting to motivate their assumptions by classifying the building energy performance for a dedicated building stock.

Current status of the draft prEN15603 and connected TR

EN

1. **Mid-May 2015 draft prEN15603 ready for CEN – secretariat (CCMC)**
2. **Start Enquiry: mid-September 2015**
3. **Closure Enquiry mid December 2015**
4. **Ready for FV April 2016 (or if FV can be skipped this is the submission to CCMC date for publication)**

TR

- May: revised version draft-TR + connected Excel files
- June 2015 draft TR to CCMC
- September draft TR out for enquiry (TCA)
- December closure TCA
- February 2016 CEN TC371 decides to publish TR

Some issues in the new draft OAS

- Chapter 8 : Clarify that the OAS is applicable for measured, calculated, new & existing buildings
- Over-arching modular structure: Include this in the TR with all relevant EN-numbers
- 7.6.4: policy energy factors>> alternative energy factors (to prevent confusion in translating “policy”)
- Clarify that the term “redelivered” is not physically used for accounting purposes
- 2. Normative references: use Annex A/B approach

normative references

- no references to EPB standards in chapter 2 "Normative references", (apart from OAS and most non-EPB standards)
- All references by the modular number of the standards. Example: "as calculated according to M8-3“;
- In Annex B (informative) is a full list of the default EPB standards referenced by using these modular numbers.
- In Annex A (normative) there is a template, with empty list to show that these have to be filled in with appropriate references when using the standard.
- The resp. authorities for the EP assessment are expected to fill in the tables as shown in annex A. They can use all the EPB standards in Annex B, but can also replace one or more by another standard (e.g. a National Standard).

3.1.2b building fabric

building as such, i.e. the building without any technical building system

- Note 1 : It includes all transparent elements, roofs, walls, floors, doors & gates, internal partitions, both inside and outside the thermal envelope, including the thermal envelope itself.
- Note 2 : The fabric determines the thermal transmission, the thermal envelope airtightness and (nearly all of) the thermal mass of the building (apart from the thermal mass of furniture and technical building systems).

The fabric also makes the building wind and water tight.

[source: Construction Products Regulation]

“Grid” to be replaced by network to make clear that it is not only electricity

- Def. 3.4.18 **nearby the building site**

energy source which can be used only at local or district level, connected to the same branch of the distribution network (for electricity: distribution network meaning medium voltage or lower) or having a dedicated connection, requiring specific equipment for the assessed building or building unit to be connected to it (e.g. district heating or cooling)

Table B.12 – Primary energy factors (*EP*)

	energy carrier		f_{Pnren}	f_{Pren}	f_{Ptot}	K_{CO2e} (g/kW·h)
	Delivered from distant					
1	Fossil fuels	solid	1,1	0	1,1	360
2		liquid	1,1	0	1,1	290
3		gaseous	1,1	0	1,1	220
4	Bio fuels	solid	0,2	1	1,2	40
5		liquid	0,5	1	1,5	70
6		gaseous	1,1	1	1,4	100
7	Electricity		2,3	0,2	2,5	420
	Delivered from nearby					
8	district heating [a)]		1,3	0	1,3	260
9	district cooling		1,3	0	1,3	260
	Delivered from on-site					
10	Solar	PV electricity	0	1	1	0
11		thermal	0	1	1	0
12	Wind		0	1	1	0
13	Environment	geo-, aero-, hydrothermal	0	1	1	0
	Exported		0	1	1	0
14	Electricity [b)]	never redelivered	2,3	0,2	2,5	420
15		temporary exported and redelivered later	2,3	0,2	2,5	420
16		to non EPB uses	2,3	0,2	2,5	420

a) Default value based on a natural gas boiler. Specific values are calculated according to M3-4.5.
b) it is possible to differentiate between different sources of electricity like wind or solar.

Improved usability of OAS

- The standard fits into the modular structure and the input-output interaction of the set of standards as a whole.
- The normative parts of the standard do not extend beyond the obligations expressed by the EPBD recast in respect to energy performing related issues. And the standard contains no implicit energy performance requirements nor related requirements like thermal comfort requirements.
- All choices of data and options related to national or reginal conditions and requirements are informative and open for the MSs to define
- Simplification of input-data has been applied to the standard. Aggregated input-data plausible for the existing building stock is enabled by the standard.
- The connected TR provides reflection on accuracy, reproducibility and effort using the example cases. The applicability of options provided by the standard is clearly described and the TR includes guidance on how to simplify the assessment process. This especially is relevant for the existing building stock.

Accompanying informative Technical Report prCEN TR 15615 to the prEN15603

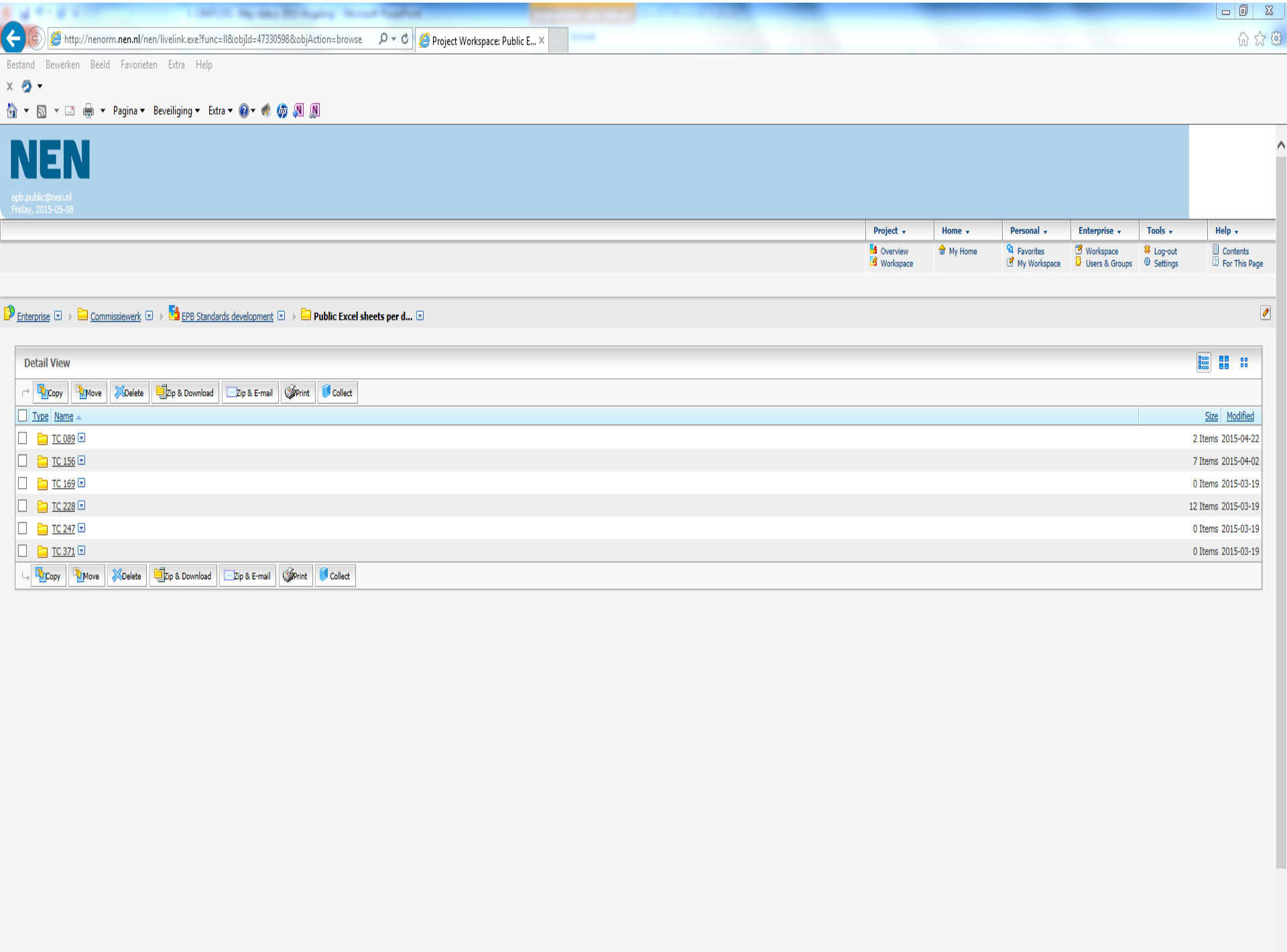
- As for all **EPB standards**, standards shall only deal with **normative text**; explanations, considerations, justifications and background information shall be included in a **Technical Report (TR)**
- The complexity of the building energy performance calculation requires guidance and good documentation and justification of the procedures.
- **TR 15615 :** Informative text is required but it is separated from actual normative procedures in the prEN15603 to avoid confusion and a unpractical heavy standard .

additional information in the TR

- the justification and background info in the TR will contribute to the transparency
- the TR is the place where we can elaborate on the fact that default values can be derived from national protocols/legislation,
- example cases to illustrate the usability of the OAS will be included in the TR where we will refer to the excel files available for each EPB standard to illustrate the given calculation rules in an unmistakeable foolproof way

Software tool to support the development and future use of the EPB-standards by software developers

- **internal tool to support, to demonstrate and validate**
  - the consistency and unambiguity of equations in the set of EPB-standards and
  - their interconnecting procedures: all in- and outputs of the EPB standards will clearly be defined
- After this check the included excel files will be publicly available
- Public link to website (at NEN livelink site)
- Login: epb.public@nen.nl Password: for-info-only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TC 156 7 Items 2015-04-02
TC 169 0 Items 2015-03-19
TC 228 12 Items 2015-03-19
TC 247 0 Items 2015-03-19
TC 371 0 Items 2015-03-19
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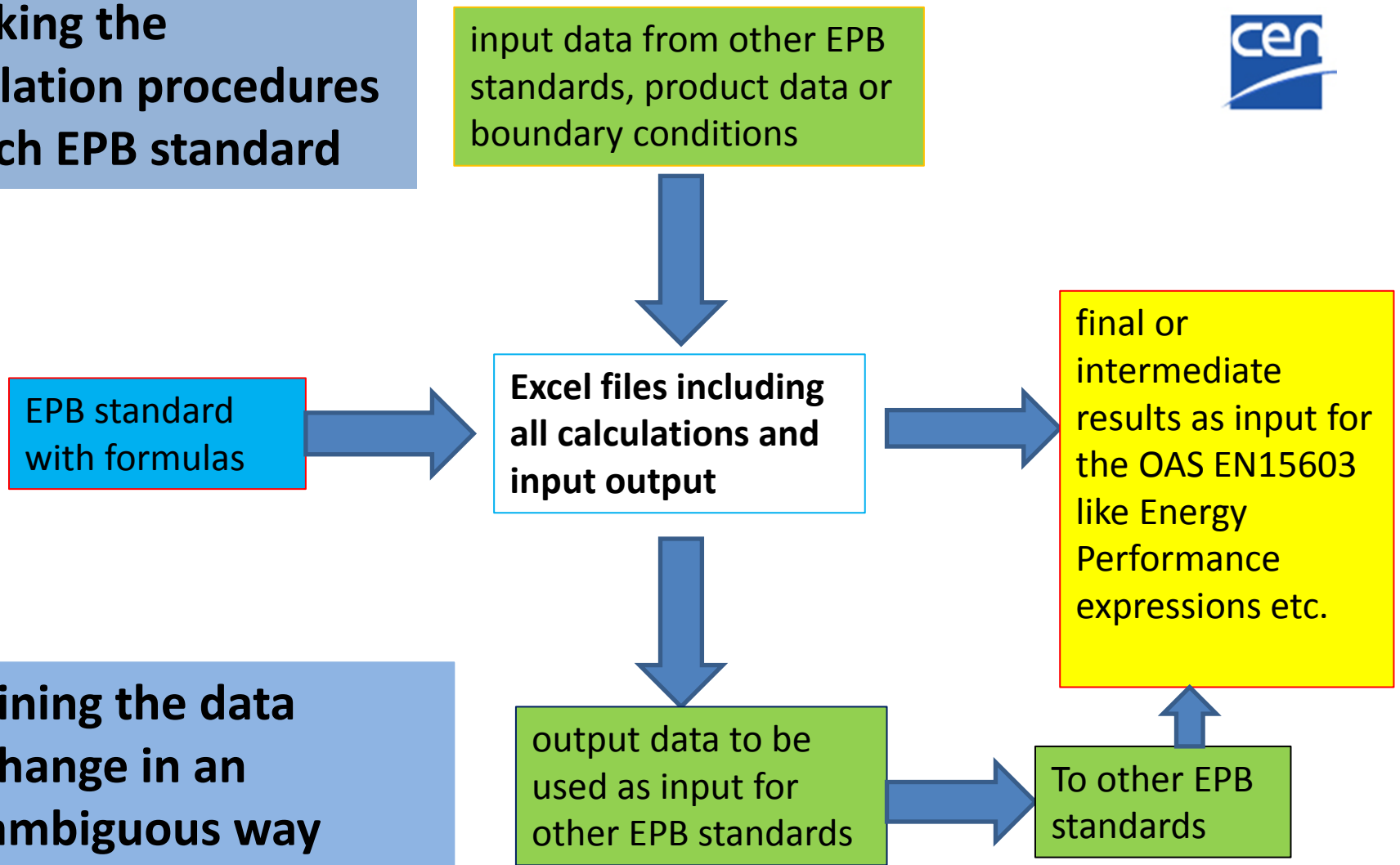
Checking the calculation procedures in each EPB standard



defining the data exchange in an unambiguous way offering software developers a clear interpretation how standards shall be used

The CEN ISO interaction

- An active process of interaction for the **Overarching Type of standards** through the **JWG of ISO TC 163 & 205**
- for the other standards via the different WG's of ISO TC 163 and 205, Sharing early prelim draft texts
- Sharing experts in the ISO and CEN teams working on these standards, with the ultimate goal to agree on ISO standards
- A challenge given the geographic and other differences in the building sector, given the very tight time scale at CEN level, for EPB standards under some of the CEN TC's the cooperation with ISO is for the time being informal (no parallel voting).
- In ISO a series of numbers has been reserved for all EPB standards (52000----52150)

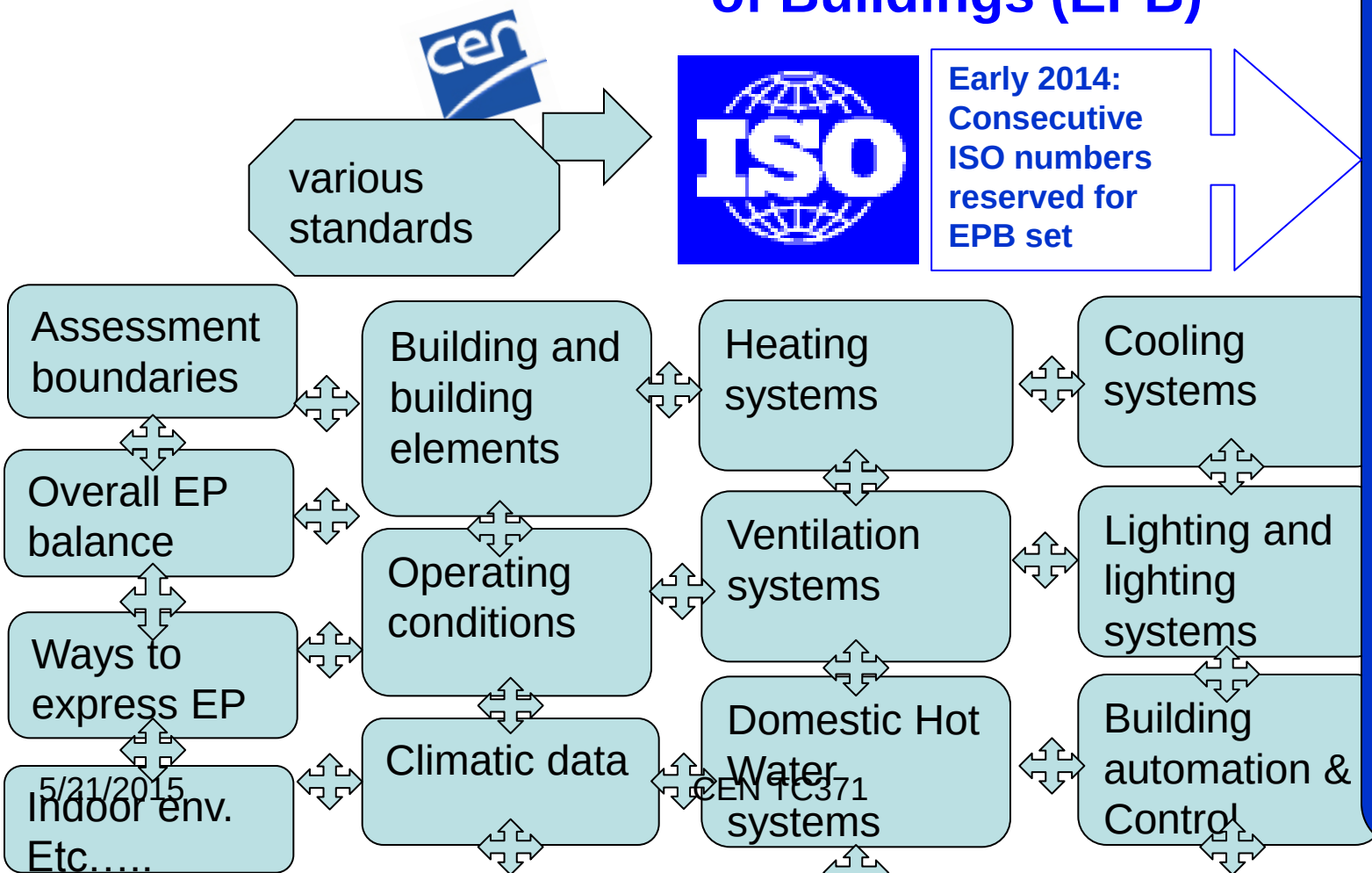
Foreword & Introduction

- The OAS is accepted as New Work Item in ISO, > new number: ISO 52000-1. It is the basic standard of the ISO 52000 series
- For all the ISO 52XXX documents Part 1 is the standard, part 2 the accompanying TR.
- CEN will produce an European front page, including statements on which ISO standards are available as EN ISO standards.
- Introduction: some examples of target audience for the standard is added.

workshop

Future prospects

Global set of standards on Energy Performance of Buildings (EPB)



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