



Seminar on
Zero Energy Building (ZEB)
7th – 8th March 2024

Update on the ZEB International Organization for Standardization (ISO/TS23764)

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Contents

1. Resolution in ISO/TC205 Penally Meeting held in Sept.2023 at Atlanta (U.S.A.)
2. Result in TC205/WG2 on “Design of Energy- Efficient Buildings” held on 8th Dec. 2023 (on lime)
3. Application policy frame of ISO/TS 23764

Resolution in ISO/TC205 Penally Meeting

Resolution 409 (Hybrid 2023-04): Revision of ISO/TS 23764:2021

- ① ISO/TC 205 resolves to revise Technical Specification ISO/TS 23764:2021, “Methodology for achieving non-residential zero-energy buildings (ZEBs)” as a Technical Specification, with **no change in scope.**
- ② TC 205 resolves that Mr. Hajime Moroo will be the project leader and resolves **the project plan (target dates) will be as follows.**
Development Track of 36 months
Submission of CD: 2024-06-30
Submission of DTS: 2025-06-30
Publication: 2025-12-31
- ③ Background:
The latest information about the design of zero energy buildings will be used to update the document.

Resolution: 10 Yes, 0 No, 0 Abstained

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Result in TC205/WG2 8th Dec. 2023

① **Participant: Singapore, Philippines, Malaysia, USA , Italy, Japan**

② **Result of Meeting**

1, Utilizeing TS23564 each country submits the first draft amendment to all the participants.

2. Deadline is end of February 2024.

3. WD is finished by the end of March 2024 considering designated by ISO directive.



4. Convenor's suggestion about future schedules until the CD consultation Ballot as following.

- Each task group member writes comments on the working draft by January or February.
- Task group members revise the working draft based on the comments by the end of March.
- ISO/TC 205/WG 2 convenor creates the Working Draft Study (WDS) with the revised working draft by the beginning of April.

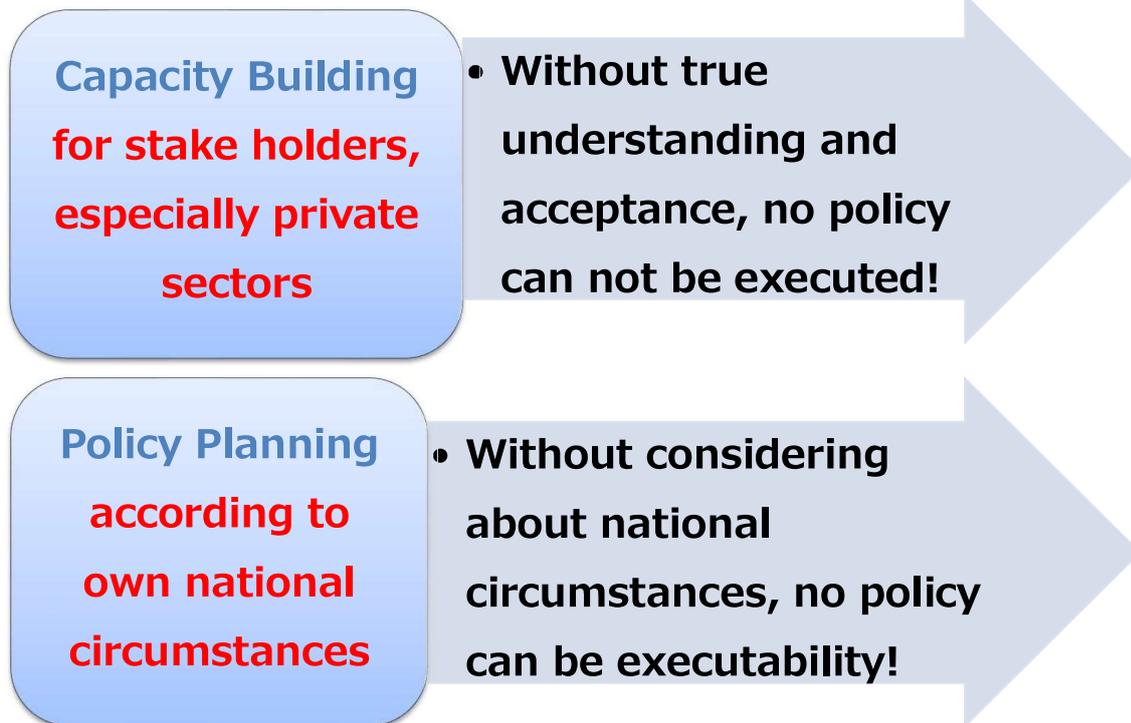
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- The WDS duration is eight weeks by default, but it can be changed.
- WG2 members check the document and leave comments during the WDS duration.
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- The WDS will be closed at the end of May (or the beginning of June) if the WDS duration is set to eight weeks
- Task group members revise the working draft again based on the comments collected during the WDS
- Task group members complete the revision of the working draft by the end of July
- Task group members ask the WG 2 members if the document is enough to launch the CD Consultation Ballot.

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The Key is a Parallel Execution



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- Parallel Execution between government and private sector in not only accelerate execution as well as certainty.
- During the policy making, policy maker arrange recurring workshop involved private sectors.
- Leading private sectors must cooperate with policy maker for the country`s future considering about the social responsibility.
- The above mountain is high, however JASE-W would like to support it based on ISO/TS 23764.

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Finally

- ☆ **ISO/TS23564** the first document which is concentrated on Zero Energy Building in ISO!
- ☆ **Majority of Project Members are Asian Economies.**
Malaysia, Philippines, Singapore, & Japan
- ☆ **Vietnam, Thailand is referring to TS23564 for policy making or experimental small ZEB building.**
- ☆ **Sincerely hope Malaysia reflect the spirits of ISO/TS23564 to be the leader of ZEB dissemination in ASEAN economies.**

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**Thank You very much
for your kind attention!**



Hajime Moroo
Project Leader of ISO/TS 23764,
Head of ZEB Solution WG/JASE-W

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ANNEX

Key point and purposes of ISO/TS23764

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Key point of ISO/TS23764

The starting point of the idea of standardization is improvement of practicability by making the “ZEB family” which allows a Step By Step approach toward net Zero Energy Building, and to increase dissemination rate by clarifying **only the minimum necessary principle for ZEBs**

Change the way of thinking flexibly and simply to approach way of net Zero Energy Building utilizing an international common language = ISO/TS23764.

Common language must be progress harmonizing the basic approach rule of net ZEB in not only ASEAN Economies but also advanced countries.

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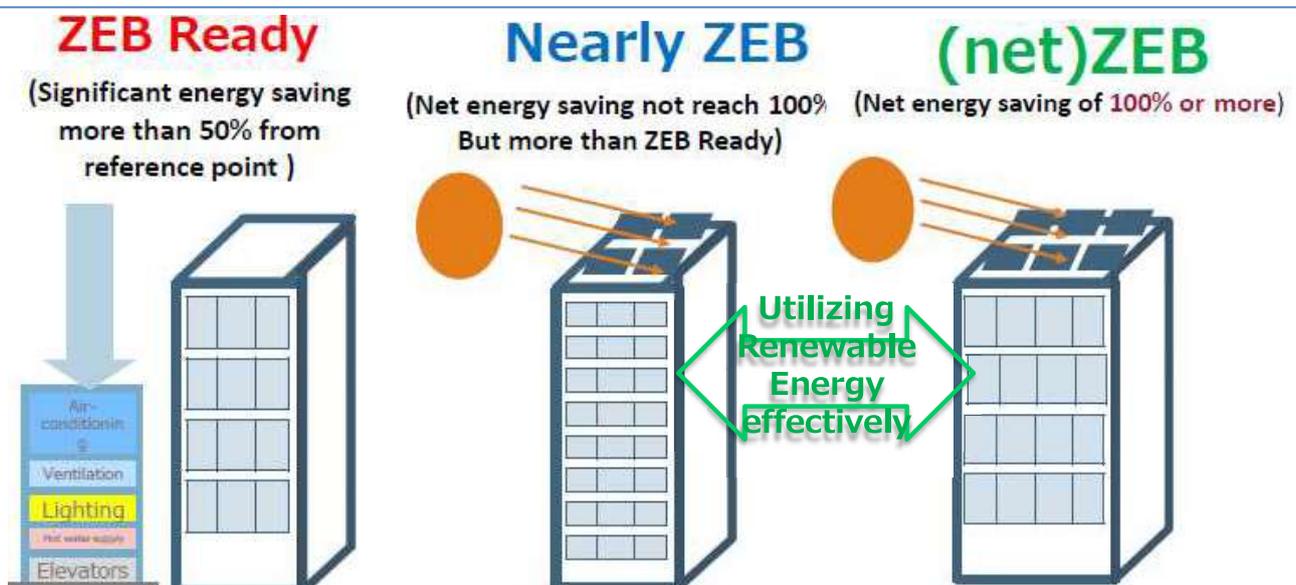
Fundamental principle of ZEB family

- ❑ If you pursue net Zero Energy Building at planning and design stage, there are many difficulties on finance or technologies in order to realize it.
- ❑ **However, once if you plan and design the building with the clear concept of “ZEB Family”, you can realize (net)ZEB through the step-by-step approach starting from “ZEB Ready”.**
- ❑ “ZEB Ready” buildings can be designed, constructed and operated by use of not only advanced technologies but also other exiting materials/equipment with measurement, verification and management, in not only developed countries but also emerging countries.

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ZEB Family Concept can Gradually reduce energy consumption in building Sector

ZEB Family Concept can be expanded “ZEB” depends on the actual conditions, e.g., financial. **First step is to aim for super low-energy buildings which are defined as “ZEB ready”, and then aim for “ Nearly ZEB” and “(net) ZEB” utilizing renewable energy**



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Six Core Elements of ISO/TS23764

Six core elements of ISO/TS 23764

Methodology for achieving non-residential zero-energy buildings

- ① **At planning stage**, to have clear policy to achieve ZEB by three steps, ZEB Ready → Nearly ZEB → (net) ZEB, but not to achieve it by only one step to (Net) Zero Energy Building.
- ② **At the design stage**, to select proper materials and equipment, which are certified by the domestic standard or international standard, as much as possible.
- ③ **During construction**, to install the selected materials and equipment correctly according to the drawings and specifications.
- ④ **After completion of building**, to realize the energy consumption targeted at the design stage.
- ⑤ **After operation start**, to inspect actual energy consumption continuously (suitable times pre year) whether there is any difference of energy consumption between targeted at design stage and measured at actual operation.
- ⑥ **After completion**, to calculate the primary energy consumption periodically by using simulation software, if possible.

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Purposes of ISO/TS23764

Way of Energy conservation in building sector

Reduction of GHG to prevent Global Warming and reduction of Co₂

Reference for the National Policy or Guideline to achieve each COP26 targets

Healthy industries and market growth of construction materials and equipment for energy efficiency

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