



Importance of ZEB Dissemination in ASEAN Economies and Outline of ISO/TS 23764

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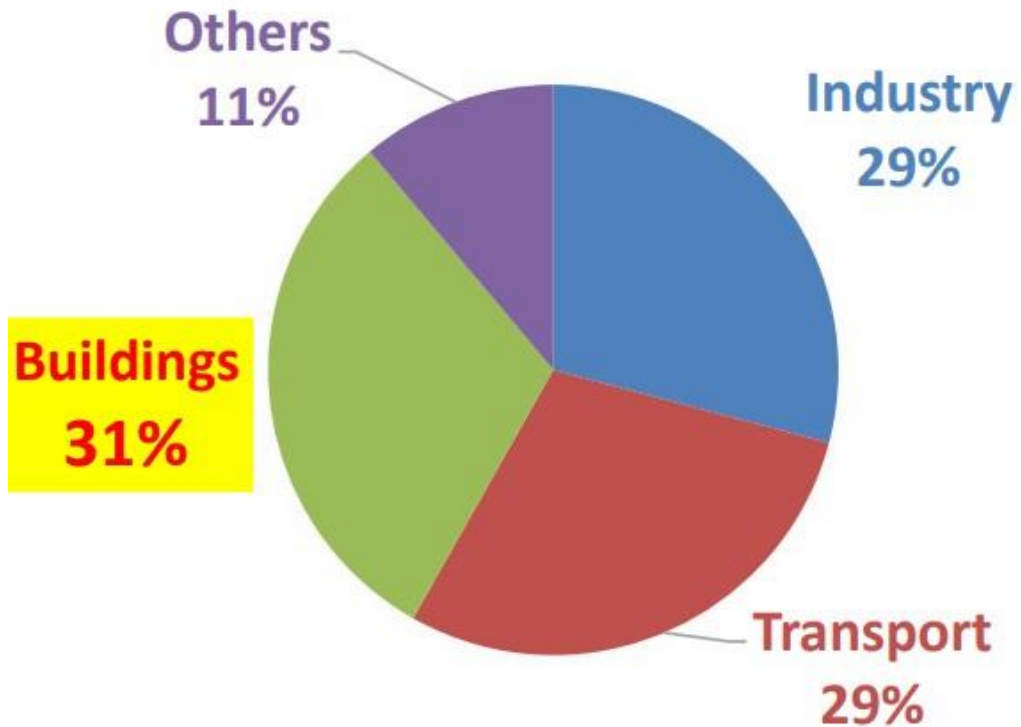


1. Contents of ISO/TS 23764 & its Key point
2. Application policy frame of ISO/TS 23764







World Energy Demand and ASEAN Economies NDC (COP26)



2019 WORLD ENERGY DEMAND



Source: IEA World Energy Outlook 2021

Country	Target declared
Singapore 	36% Reduction vs 2005 by 2030
Indonesia 	Achieve Carbon Neutral by 2060
Malaysia 	Achieve Carbon Neutral by 2050
Thailand 	Achieve Carbon Neutral by 2050
Philippines 	75% Reduction vs BAU by 2030
Vietnam 	Achieve Carbon Neutral by 2050

Building Sector is almost 30% of Energy Demand

Key point of ISO/TS23764



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

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

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



Fundamental principle of ZEB family

- ❑ If you pursue net Zero Energy Building at the planning and design stage, there are many difficulties in finance or technologies to realize it.
- ❑ **However, once 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 existing materials/equipment with measurement, verification, and management, in not only developed countries but also emerging countries.

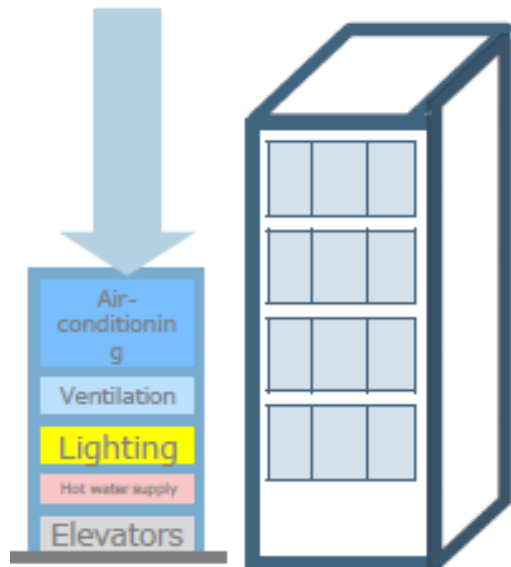
ZEB Family Concept can Gradually reduce energy consumption in building Sector



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

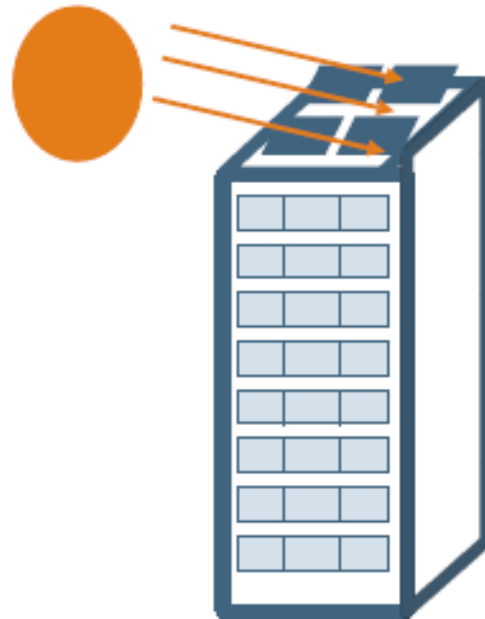
ZEB Ready

(Significant energy saving more than 50% from reference point)



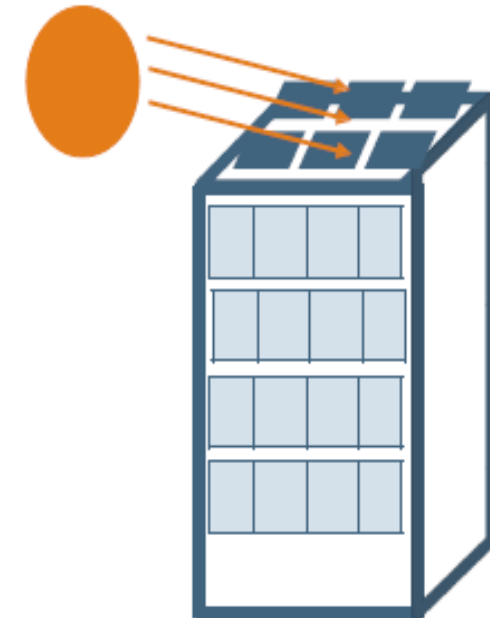
Nearly ZEB

(Net energy saving not reach 100% But more than ZEB Ready)



(net)ZEB

(Net energy saving of 100% or more)

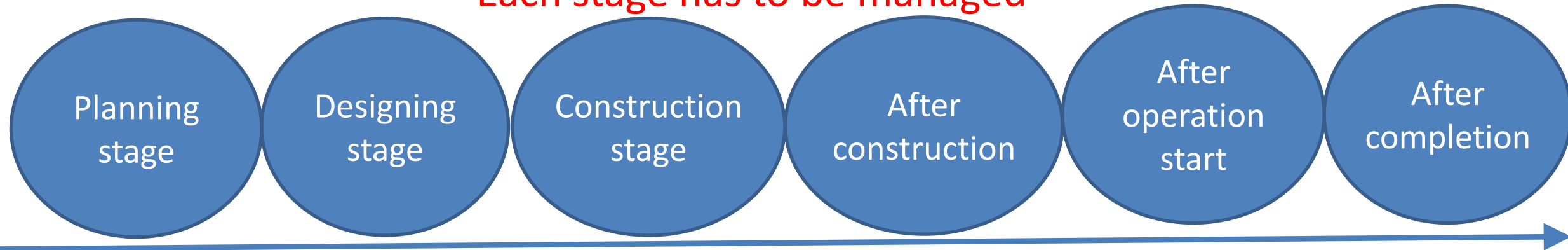


Six Core Elements of ISO/TS23764



Methodology for achieving non-residential zero-energy buildings

Each stage has to be managed



To have a clear policy to achieve ZEB by the three steps, ZEB Ready → Nearly ZEB → (net)ZEB, but not to achieve it by only one step to (Net) Zero Energy Building.

To identify appropriate passive and active design strategies and select proper materials and equipment, which are certified by the domestic standard or international standard, as much as possible

To install the selected materials and equipment correctly according to the drawings and specifications

To realize the energy consumption targeted at the design stage.

To inspect actual energy consumption continuously (suitable times per year) whether there is any difference of energy consumption between the targeted at design stage and the measured at actual operation.

To calculate the primary energy consumption periodically by using simulation software, if possible.

Purposes of ISO/TS23764



To show the way of energy-saving
in the building sector

Reduction of GHG to prevent Global
Warming and reduction of CO2

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

Healthy market growth of construction materials
and equipment for energy efficiency

**TECHNICAL
SPECIFICATION**

**ISO/TS
23764**

First edition
2021-09



**Methodology for achieving non-
residential zero-energy buildings
(ZEBs)**

ISO Technical Specification TS23764

“Methodology for achieving non-residential zero-energy buildings (ZEBs)”

Issued on Sep.24th, 2021
By ISO website



Reference number
ISO/TS 23764:2021(E)

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The Key is a Parallel Execution

Capacity Building
for stakeholders,
especially private
sectors

- Without true understanding and acceptance, no policy can not be executed!

Policy planning
according to own
national
circumstances

- Without considering national circumstances, no policy can be executability!

Application policy frame of ISO/TS 23764



- Parallel Execution between government and private sector in not only accelerate execution but also certainty.
- During the policy-making, policy makers arrange recurring workshops involving private sectors.
- Leading private sectors must cooperate with policymakers for the country's future considering social responsibility.
- The above mountain might be high, however, JASE-W would like to support it based on ISO/TS 23764.

And 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, China, US & Japan
- ☆ Sincerely hope the Philippines will reflect the spirit of ISO/TS23564 to be the leader of ZEB dissemination in ASEAN economies.



Thank You very much
for your kind attention!

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