

Can Morocco achieve net zero energy building?

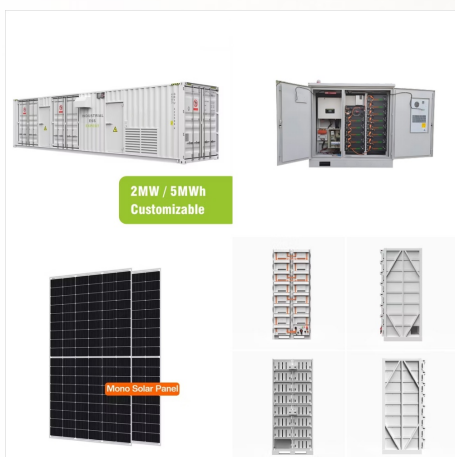
More than 21% of energy saving can be achieved, 28% in heating load and 40% in cooling. The present study aims to assess the possibility of achieving net zero energy building in the Moroccan housing stock by combining architectural energy efficiency practices and renewable energies for hot water and electricity productions.

What is a net zero energy building?

In recent years, construction designs have advanced dramatically. Net zero energy buildings, which produce the energy they need on site from renewable sources, increasingly are the default choice.

How can building envelopes reduce energy consumption in Morocco?

Improving the building envelope makes a significant contribution to reducing energy consumption. Indeed, more than 21% of energy saving, 28% of heating saving and 40% of cooling saving are possible to be achieved in all Moroccan climatic zones. Agadir and Tangier are the cities with the lowest thermal demands.



Multi-objective optimization of passive energy efficiency measures for net-zero energy building in Morocco. 2021, Building and Environment. Citation Excerpt : The PV area is different from one region to another, depending on the daily loads and on the solar irradiation available. Besides, TRNSYS Model: type 90 was used to get models of

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highest building energy demand in Morocco, with 78.1 kWh/m<sup>2</sup> per year, followed by Marrakesh buildings, which consume 74.2 kWh/m<sup>2</sup> a year [16,18] . Therefore, building energy efficiency



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Within the framework of the sustainable development and carbon-neutrality, the building sector is a key target of the national energy strategy towards zero-carbon economy in Morocco.

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Multi-objective optimization of passive energy efficiency measures for net-zero energy building in Morocco. N. Abdou Y. E. Mghouchi S. Hamdaoui N. E. Asri M. Mouqallid. Environmental Science, Engineering. 2021; 81. Save. Multi-Objective Optimization of Building Life Cycle Performance. A Housing Renovation Case Study in Northern Europe



Furthermore, the techno-economic analysis revealed that the electricity provided by a PV-battery hybrid system was 100% renewable and emission-free, with an energy cost of approximately \$0.218/kWh



The topic of zero energy buildings (ZEBs) has received increasing attention in recent years, until becoming part of the energy policy in several countries. In the recast of the EU Directive on Energy Performance of Buildings (EPBD) it is specified that by the end of 2020 all new buildings shall be "nearly zero energy buildings" [1].

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The concept of net zero energy buildings (nZEB) is promising since it has the potential to drastically reduce energy use and pollutants produced by structures. Several obstacles remain in the way of full implementation of this idea, especially in sub-Saharan Africa. Specifically for the countries of Cameroon, Senegal, and Cote d'Ivoire in sub



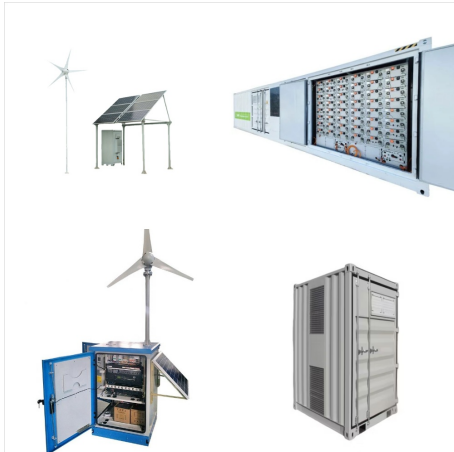
DOI: 10.1016/j.procs.2024.05.032 Corpus ID: 270181828; The Net Zero Energy Building Definition Framework: An Overview Pathway to Enhancing Sustainable Development and Mitigating Climate Change in Morocco



Welcome to International Conference of Net Zero Energy Commercial Building "Building a Greener Tomorrow: Uniting Minds at the International Conference of Sustainable Construction"  
International Conference of net zero energy commercial buildings November 14th-15th, 2024 Casablanca| Morocco About NZECB 2024 : A net zero-energy building (NZEB) is a residential ???



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The Net Zero Energy Building Definition Framework:  
An Overview Pathway to Enhancing Sustainable  
Development and Mitigating Climate Change in  
Morocco January 2024 Procedia Computer Science  
236:281-288



International Conference of net zero energy  
commercial buildings scheduled on March 02-03,  
2024 at Casablanca, Morocco is for the  
researchers, scientists, scholars, engineers,  
academic, scientific and university practitioners to  
present research activities that might want to attend  
events, meetings, seminars, congresses,  
workshops, summit, and symposiums.

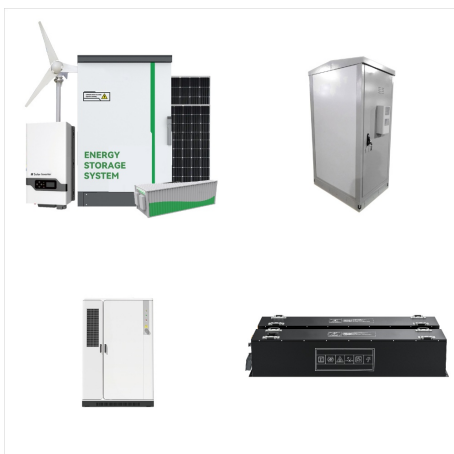


To generate a building's estimated energy  
consumption, and the renewable energy required to  
meet the Zero Code/IECC 2021 Renewable Energy  
Appendix and the Zero Code 2.0 ??? prescriptive or  
performance ??? enter information about your  
building and any on-site solar PV system(s).Click  
Generate Results to view the Estimated Building  
Energy Consumption and/or ???

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The difference with net zero or commonly known as NZEB (net-zero energy building) is that it aims to produce the energy the building needs from renewable energy, such as PV. 5. Conclusion and perspectives Today, the construction sector offers in Africa and more particularly in Morocco a real potential for development.



The challenge in Net Zero Energy Building (NZEB) design is to find the best combination of design strategies that will face the energy performance problems of a particular building. This paper presents a methodology for the simulation-based multi-criteria optimization of NZEBs. Its main features include four steps: building simulation



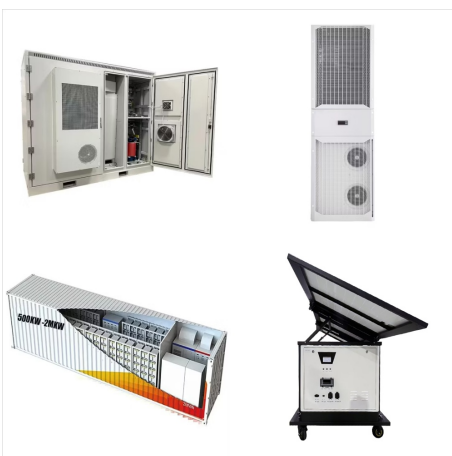
Globally, the building sector constitutes one of the three major carbon-emitting sectors (along with transportation 1 and industry 2). Among those three, buildings have the highest energy demand share (approximately 35%). 3 Although building energy activity declined (over 3%) in 2020 during the COVID-19 pandemic, 2021 ushered in a rebound as building activity in ???



Towards rural net-zero energy buildings through integration of photovoltaic systems within bio-based earth houses: Case study in Eastern Morocco. S El Hassani, M Charai, MA Moussaoui, A Mezrhah. Solar Energy 259, 15-29, 2023. 17: 2023: Thermo-physical and mechanical characterization of cement-based mortar incorporating spent tea.



The present study aims to assess the possibility of achieving net zero energy building in the Moroccan housing stock by combining architectural energy efficiency practices and renewable ???



(DOI: 10.1016/J.BUILDENV.2021.108141) This article is published in Building and Environment. The article was published on 2021-10-15. It has received 47 citations till now. The article focuses on the topics: Zero-energy building & Efficient energy use.

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In this section, a stand-alone PV system was considered for a bio-sourced building located in Oujda, Morocco. A complete schematic description of the tools and methodological steps used in the study is presented in Fig. 9. Net-zero energy buildings and bio-based building envelopes are two different but complementary concepts related to



Dubai, 6 December 2023 ??? The Governments of France and Morocco, together with the UN Environment Programme (UNEP), launched the Buildings Breakthrough today at COP28, which will see countries joining forces to accelerate the transformation of the sector ??? which accounts for 21 per cent of global greenhouse gas emissions ??? with a view to making near-zero emissions ???



Net zero energy building design methodologies include integrative approaches and numerical tools to provide optimal performance and cost-effective results. Team integration, characterized by knowledge transfer between disciplines, has yet to be quantified for the design processes of these buildings. Abdelmalek Essaadi University- Morocco [5]



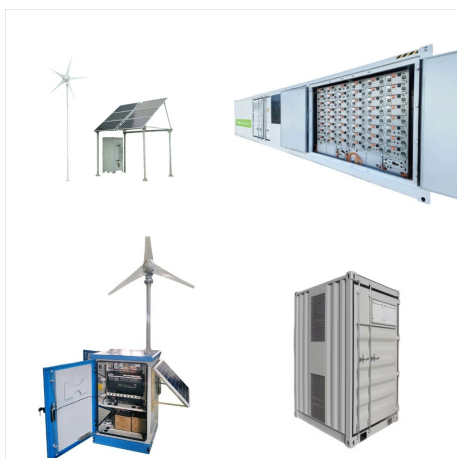
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Abstract. Within the framework of the sustainable ???



Net zero energy buildings (NZEBS) are the future direction of architectures as well as the guideline to counter-act with energy issues. In this study, we proposed a new concept of "double zero" for building envelope, in which the "first zero" means zero heat gain/heat loss through building envelopes and the "second zero" means net zero energy consumption to fulfill ???



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International Conference of net zero energy ???



Systems Programme - Annex 52 Joint Project:  
Towards Net Zero Energy Solar Buildings 2 Version:  
IEA NZEB Task 40-Annex 52 Revised Plan  
090225.doc IEA SHC TASK 40 ??? IEA ECB CS  
ANNEX 52 TOWARDS NET ZERO ENERGY  
SOLAR BUILDINGS (NZEBs) 1. Preamble Energy  
use in buildings worldwide accounts for over 40% of  
primary energy use and



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237658593; Multi-objective optimization of passive  
energy efficiency measures for net-zero energy  
building in Morocco  
@article{Abdou2021MultiobjectiveOO,  
title={Multi-objective optimization of passive energy  
efficiency measures for net-zero energy building in  
Morocco}, author={N. Abdou and Youness ???



3.1. Studied urban building archetype. The major  
urban building archetypes in Morocco based on the  
latest census of 2014 [33] are as follow: Villa (4.5  
%), Modern Moroccan house "two-floors" (65 %),  
Traditional Moroccan house (5.5 %), Mid-rise  
Apartment "four floors or greater" (17.5 %), but  
these figures are rapidly shifting. Economic growth  
and population ???

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Research engineer - Cited by 294 - energy efficiency - net zero energy buildings Thermal performance of a hemp concrete residential building envelope in Tangier-Morocco. H Lidoh, B Ikken, SI Kaitouni. 2018 6th International Renewable and Sustainable Energy Conference (IRSEC), 1-8, 2018. 9:



Semantic Scholar extracted view of "The Net Zero Energy Building Definition Framework: An Overview Pathway to Enhancing Sustainable Development and Mitigating Climate Change in "