

43rd ASEAN MINISTERS ON ENERGY MEETING ENDORSED KEY FRAMEWORKS TO ADVANCE **ENERGY COOPERATION AND INTEGRATION**

These frameworks will strengthen cross-border power connectivity, enhance energy security and scale up renewable energy cooperation.

- The 43rd ASEAN Ministers on Energy Meeting (AMEM) and associated meetings were 1 held in Kuala Lumpur, Malaysia, from 16 to 17 October 2025. Singapore was represented by Minister-in-charge of Energy and Science & Technology Tan See Leng.
- 2 The 43rd AMEM welcomed the achievements and progress made by ASEAN member states during Malaysia's term as ASEAN Chair. These include:
 - a. Endorsing the enhanced ASEAN Power Grid Memorandum of Understanding (MOU) and ASEAN Framework Agreement on Petroleum Security (APSA): The MOU seeks to improve policy and regulatory coordination on the ASEAN Power Grid, while APSA seeks to coordinate response measures for emergency petroleum-sharing and adopt measures to minimise exposure to emergencies.
 - b. Endorsing the Terms of Reference (TOR) for ASEAN Subsea Power Cable Development Framework: Building an inclusive and resilient ASEAN Power Grid will require the deployment and passage of subsea power cables through the region's waters. Singapore will lead the drafting of the legal and regulatory elements of the Framework, while other ASEAN member states will lead the drafting of the technical, governance, and financial/commercial elements.
 - c. Endorsing the ASEAN Plan of Action for Energy Cooperation (APAEC) 2026-2030: Member states reaffirmed their commitment to press on with energy transition efforts to achieve new targets that are ambitious and forward-looking.
 - d. Welcoming the TOR discussions for the ASEAN Renewable Energy Certificate (REC)1 Framework: This will harmonise certification for and facilitate the crossborder trade of renewable energy, in support of the ASEAN Power Grid.
 - e. Welcoming the preliminary discussions on the ASEAN Nuclear Power Plant Development Framework, which focuses on regional cooperation on safety standards aligned with the International Atomic Energy Agency (IAEA).
 - Welcoming the launch of the ASEAN Power Grid Financing Initiative and the support of the World Bank and Asian Development Bank in mobilising financing for the ASEAN Power Grid.

¹ RECs are digital certificates that attest to the low-carbon attributes of energy generated from renewable sources, such as solar power, hydropower or wind.









- 3 The Meeting also adopted the Joint Ministerial Statement on the 43^{rd} AMEM. (Refer to Annex A)
- At the sidelines of the 43rd AMEM, Minister Tan chaired the 6th Lao PDR-Thailand-Malaysia-Singapore (LTMS) Ministerial Meeting. The LTMS Ministers reaffirmed their commitment to continue advancing multilateral and multidirectional cross-border power trade to develop the ASEAN Power Grid for the collective benefit of the region. The LTMS Ministers also issued the 6th Joint Statement. (Refer to Annex B)
- Minister Tan said, "ASEAN is staying the course in regional energy cooperation and integration. Under Malaysia's leadership as ASEAN Chair, we have made good progress in putting in place key enablers for the ASEAN Power Grid, such as the endorsement of terms of reference for a subsea power cable development framework. Regional energy interconnectivity strengthens our collective energy security, catalyses new investments, and accelerates decarbonisation. Singapore will do our part to realise a more resilient, sustainable and inclusive energy future for Southeast Asia."
- The ASEAN Energy Awards 2025 was also held on 16 October 2025 to recognise the efforts of the private sector in energy management, while encouraging greater cooperation in the region towards energy efficiency. Singapore received two awards for implementing the best practices in energy efficiency. (Refer to Annex C for details of the Singapore winners)

Annex A: Joint Ministerial Statement on the 43rd AMEM

Annex B: 6th Joint Statement of the LTMS-PIP

Annex C: Singapore Winners of the ASEAN Energy Awards 2025

MINISTRY OF TRADE AND INDUSTRY 16 October 2025

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Joint Ministerial Statement on the 43rd AMEM



JOINT MEDIA STATEMENT OF THE FORTY-THIRD ASEAN MINISTERS ON ENERGY MEETING (43RD AMEM)

16 October 2025, Kuala Lumpur, Malaysia

- 1. The Forty-Third ASEAN Ministers on Energy Meeting (43rd AMEM) was convened on 16 October 2025 in Kuala Lumpur, Malaysia. The Meeting was chaired by H.E. Datuk Amar Haji Fadillah bin Haji Yusof, Deputy Prime Minister and Minister of Energy Transition and Water Transformation of Malaysia, and H.E Sharon S. Garin, Secretary of Department of Energy of Philippines, as the Vice Chair. The Meeting was attended by Energy Ministers and representatives from all ten ASEAN Member States. Also present were the Deputy Secretary-General of ASEAN, the Executive Director of the ASEAN Centre for Energy (ACE), the Heads of ASEAN Power Utilities/Authorities (HAPUA) Secretariat, the ASEAN Council on Petroleum and Energy (ASCOPE) Secretary-in-Charge, and representatives from relevant Sub-Sector Networks (SSNs). Dialogue partners from the United States of America, the International Energy Agency (IEA), and the International Renewable Energy Agency (IRENA) also attended, while Timor-Leste participated as an observer.
- 2. The Meeting commended Malaysia's leadership as AMEM Chair 2025 under the theme "Powering ASEAN: Bridging Boundaries, Building Prosperity." The theme reflected ASEAN's shared aspiration to strengthen cross-border energy cooperation, accelerate the clean energy transition, and harness energy as a driver for inclusive growth. The Meeting highlighted the importance of regional coordination to address rising energy demand, the volatility of global energy markets, and the urgency of climate action.
- 3. The Meeting commended the new commitment under the ASEAN Power Grid (APG) Enhanced Memorandum of Understanding (MoU) and the Terms of Reference (ToR) of the APG Bodies, marking a milestone in ASEAN's decades-long effort to strengthen regional electricity connectivity. The Meeting reaffirmed the APG as central to promoting regional power trade, enhancing energy security, supporting the integration of renewable energy and accelerating the investment in the energy sector. The Meeting

















reiterated their commitment to realise a sustainable, inclusive and resilient APG, comprising multiple overland and subsea energy interconnections.

- 4. Recalling the 42nd AMEM Joint Ministerial Statement where the Meeting tasked SOME and ACE to develop a ToR for a regional submarine cable framework, the Meeting welcomed and endorsed the Submarine Power Cable Development Framework ToR as a remarkable milestone towards the implementation of the APG by 2045. The Meeting reaffirmed the importance of the Framework and its four components of: (i) legal and regulatory, (ii) technical, (iii) commercial, and (iv) governance as critical enablers for the laying, maintenance and repair, and protection of submarine power cables. Commending SOME and ACE for their excellent efforts in developing the TOR, the Meeting called for sustained and accelerated progress, and encouraged the completion of the Framework by the 44th AMEM or earlier, with a focus on implementation thereafter. The Meeting tasked SOME and ACE to provide regular progress updates to AMEM on the development and implementation of the Framework.
- 5. The Meeting announced the establishment of the ASEAN Power Grid Financing Initiative (APGF) in collaboration with Multilateral Development Bank (MDB), a new regional financing mechanism designed to mobilise public and private investments in transmission infrastructure and interconnection projects. The initiative was recognised as a tool to unlock capital, de-risk investments, and strengthen the financial viability of the APG. The Meeting emphasised that the APG Enhanced MOU, ASEAN Submarine Power Cable Framework and APGF are important building blocks of the ASEAN Power Grid and demonstrate ASEAN's commitment to implementing bankable projects that will deliver tangible benefits for the people of ASEAN.
- 6. The Meeting welcomed the progress of Multilateral Power Trade (MPT) initiatives. The Meeting acknowledged the remarkable success of the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) which serves as a cornerstone of the APG, demonstrating the feasibility of multilateral and multidirectional cross-border power trade in enhancing energy security and grid resilience. The Meeting congratulated the officials on successfully implementing power trade of up to 200 Megawatt (MW) using existing interconnections from (a) Lao PDR to Singapore via Thailand and Malaysia, and (b) Malaysia to Singapore. The Meeting also noted the advancement of the Brunei Darussalam-Indonesia-Malaysia-Philippines Power Integration Project (BIMP-PIP). The Meeting highlighted these initiatives as flagship demonstrations of ASEAN's ability to operationalise cross-border power trade, enhance grid reliability, and unlock the potential of renewable energy. The Meeting reaffirmed











their support to scale up these projects and use them as models for broader regional electricity trading under the APG framework.

- 7. The Meeting noted the establishment of the ASEAN School of Regulation (ASR) under the ASEAN Energy Regulators Network (AERN). The Meeting noted the ASR as a potential platform to build regional expertise on regulatory frameworks, legal aspects, and market reforms in the energy sector. The Meeting further noted that the ASR will strengthen ASEAN's capacity to design and implement regulatory innovations that support regional integration and attract investment.
- 8. The Meeting endorsed the ASEAN Framework Agreement on Petroleum Security (APSA), which modernises and updates the region's petroleum security arrangements. This successor agreement was acknowledged as a crucial mechanism to ensure oil and gas security during supply disruptions, strengthen emergency response coordination, and enhance resilience of the region's energy system. The Meeting reaffirmed the importance of safeguarding energy supply chains, particularly in times of heightened global uncertainty.
- 9. The Meeting appreciated the progress of the ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II: 2021-2025 with a sub-theme of "Accelerating Energy Transition and Strengthening Energy Resilience through Greater Innovation and Cooperation" and the completion towards its End Year Term. The Meeting commended the work by HAPUA, ASCOPE, ASEAN Forum on Coal (AFOC), Energy Efficiency and Conservation Sub-Sector Network (EE&C-SSN), Renewable Energy Sub-Sector Network (RE-SSN), Regional Energy Policy and Planning Sub-Sector Network (REPP-SSN) and Civilian Nuclear Energy Sub-Sector Network (NEC-SSN) as well as ACE and the ASEAN Secretariat. In addition, the Meeting thanked all Dialogue Partners, International Organisations and other partners for their invaluable support over the past five years in advancing a secure, sustainable, and inclusive energy future for the region.
- 10. The Meeting endorsed the APAEC 2026–2030, with the theme, "Advancing Regional Cooperation in Ensuring Energy Security and Accelerating Decarbonisation for a Just and Inclusive Energy Transition", which will serve as the guiding blueprint for ASEAN's energy agenda in the next five years. The APAEC 2026–2030 was recognised as a landmark achievement, aligning ASEAN's energy priorities with the ASEAN Vision 2045 and the ASEAN Economic Community (AEC) Strategic Plan 2026–2030. It sets clear pathways for ensuring energy security, advancing regional interconnectivity, scaling up renewable energy deployment, enhancing energy efficiency, and embracing emerging technologies. The Meeting noted that the APAEC represents ASEAN's unified response









to global energy challenges while ensuring that energy remains a foundation of regional prosperity.

- 11. As part of the APAEC 2026–2030, the Meeting adopted new aspirational targets for the region, namely a 40% reduction in Energy Intensity (EI) by 2030 (based on 2005 levels), 30% renewable energy share in Total Primary Energy Supply (TPES) by 2030, and 45% renewable energy share in installed power capacity. The Meeting highlighted ASEAN's strategic direction towards a stronger regional cooperation on technology innovation, supportive policy frameworks, and scaled-up investment will be critical to meet ASEAN's energy transition and carbon neutrality aspirations.
- 12. The Meeting acknowledged the necessity for promoting EE&C measures to decarbonise building, industry, and transport sectors. The Meeting also stressed the importance of scaling up RE development through power sector technology transformation and its regulatory enabler, increasing grid capacity and flexibility, and the use of low-carbon fuel for end-use sectors. The Meeting further encouraged the advancement of innovative solutions such as low-carbon hydrogen, digital technologies including Artificial Intelligence (AI), and emission reduction technologies such as carbon capture utilisation and storage (CCUS), and the possible contribution of nuclear power for interested Member States.
- 13. The Meeting commended the achievement and updates of key sectoral deliverables that mark significant progress in advancing ASEAN's energy cooperation across various programme areas from 2021-2025. These included:
 - i. <u>ASEAN Power Grid (APG)</u>: Major achievements in advancing priority interconnection projects, and progressing Feasibility Studies for Cross-Border Interconnection under the ASEAN Interconnection Masterplan Study (AIMS) III. Also noted the findings from Phase 3 on development of multilateral power market and the identification of potential upcoming pilot projects.
 - ii. <u>Trans-ASEAN Gas Pipeline (TAGP)</u>: Achieved more expansion in total pipeline and regasification capacity, along with the inclusion of methane emission management as part of regional gas sustainability efforts. ASCOPE was renamed as the ASEAN Council on Petroleum and Energy (ASCOPE) accompanied by the adoption of a new ASCOPE Charter. The programme area was also expanded to Oil and Gas Connectivity, Security and Sustainability (OGCSS) under APAEC 2026-2030.







- iii. <u>Clean Coal Technology (CCT)</u>: Advanced decarbonisation efforts in the power sector through strengthened collaboration with International Players to promote cleaner coal technologies. The programme was rebranded as Clean Coal Transformation to better reflect ASEAN's sustainable energy priorities under the APAEC 2026-2030, highlighting the region's commitment to a balanced and cleaner energy transition
- Energy Efficiency and Conservation (EE&C): Achieved major progress in reducing iv. energy intensity across the industry, transport, building, and commercial sectors. Efforts include the adoption of EE&C for decarbonising end-use sectors through the launch of the ASEAN Energy Efficiency Database and Investment Platform for Buildings, improved innovative solutions, policy and standards harmonisation.
- Renewable Energy (RE): Demonstrated steady progress in achieving ASEAN's ٧. renewable energy targets for installed power capacity and total primary energy supply, supported by various outreach, studies and stakeholder engagements. The development of the ASEAN Renewable Long-Term Roadmap serves as a strategic framework to provide a comprehensive plan for scaling up renewable energy to meet future demand. In addition, the endorsement of the TOR for the Development of the ASEAN Regional Renewable Energy Certificate (REC) Framework to establish market-based instruments to facilitate renewable energy trade and investment.
- vi. Regional Energy Policy and Planning (REPP): Continuously launched the ASEAN Energy Outlook on biennial basis, strengthening regional energy policy, planning, and interconnectivity by ASEAN owned data, modeling, and analytical capacity. REPP continuous to play a key role in bridging investment gaps, and promoting a cross-sectoral approaches, including energy-climate, to accelerate a just, equitable, and low-carbon energy transition.
- <u>Civilian Nuclear Energy (CNE)</u>: Enhanced AMS capacity on nuclear power safety vii. and strengthened coordination with International best practices. The Meeting noted the preliminary discussions on the extended outline for the Nuclear Power Plant Development Framework, which provides a foundation for ASEAN Member States exploring civilian nuclear energy pathways, with emphasis on safety, regulatory readiness, and human resource development.
- 14. The Meeting recognised the important role of the ACE as the region's energy think tank, catalyst, and knowledge hub. The Meeting reaffirmed their commitment to further strengthen ACE's institutional capacity, particularly in carrying out its mandate as the Secretariat for the APAEC, as well as in its designated roles as Secretariat for the APG,













the APGF, APSA, and other regional initiatives. The Meeting underscored that a strong and well-resourced ACE is critical to advancing ASEAN's collective efforts to ensure energy security, enhance connectivity, and accelerate the region's just, inclusive, and sustainable energy transition.

- 15. The Meeting reaffirmed the importance of strengthening partnerships with Dialogue Partners and International Organisations to support ASEAN's energy transition. The Meeting welcomed the ongoing and new initiatives under various collaboration with Dialogue Partners and International organisations, aimed to support the APAEC implementation. The Meeting highlighted that ASEAN's open and inclusive approach to partnerships has been instrumental in advancing the APAEC goals and will remain a cornerstone of ASEAN's engagement strategy.
- 16. The Meeting welcomed the outcomes of the Fourth ASEAN Ministers on Energy Meeting and the United States Dialogue (4th AMEM–U.S. Dialogue). The Dialogue explored key areas for enhanced cooperation and the U.S. energy exports, including the APG, Small Modular Reactors (SMRs), Carbon Capture, Utilisation and Storage (CCUS), clean coal technologies, oil and gas collaboration, and opportunities in Liquefied Natural Gas (LNG) to bolster regional energy security. The Dialogue highlighted shared priorities on power interconnection, nuclear development, CCUS deployment, LNG security, and digital solutions for energy reliability, alongside support for ASEAN–U.S. cooperation in advancing APAEC goals and mobilising investments for advanced technologies. The U.S. reaffirmed its long-term commitment to ASEAN energy cooperation, recognising its strategic importance for reliability and affordability. The Dialogue concluded with a reaffirmation of strengthened ASEAN–U.S. energy ties and looked forward to the 5th AMEM–U.S. Dialogue in 2026 under the Philippines' Chairmanship.
- 17. The Meeting welcomed the outcomes of the ASEAN–IEA and ASEAN–IRENA Dialogues, which reaffirmed the strong partnerships between ASEAN and the two international organisations. The Dialogues highlighted the importance of deepening collaboration on energy transition strategies, renewable energy integration, and regional power interconnectivity, including support for the effective implementation of the APG. The Meeting welcomed IEA's analytical and policy support in energy security and carbon neutrality through the ASEAN-IEA Work Plan, and look forward to the ASEAN Energy Security Review to be prepared by the IEA and ACE. The Ministers also acknowledged IRENA's efforts in kickstarting regional initiatives to advance renewable energy deployment, innovation, and investment mobilisation in the region. The Meeting



agreed that IEA and IRENA remain key players for our efforts in developing best practices and engaging international expertise for ASEAN's energy transition, and emphasised the importance of aligning such cooperation with the priorities and targets set under the APAEC.

- 18. The Meeting noted the successful arrangement for the ASEAN Energy Business Forum (AEBF 2025). The Meeting highlighted the AEBF as a premier regional platform to connect policymakers, industry leaders, investors, and innovators. The Meeting commended ACE and PETRA of Malaysia, on the successful organisation of the AEBF 2025, which featured the Ministers-CEOs Dialogue, Gala Night, the 5th ASEAN International Conference on Energy and Environment (AICEE), conferences, business matching, exhibition, and the ASEAN Energy Leaders' Golf Tournament.
- 19. The Meeting congratulated the awardees of the ASEAN Energy Awards 2025 recognised for best practices given in the areas of: (i) Green Building (5 awards); (ii) Energy Efficient Building (15 awards); (iii) Energy Management in Buildings and Industries (13 awards); (iv) Renewable Energy Projects (27 awards); (v) Coal Projects (14 awards), (vi) Excellence in Energy Management by Individuals conferred to senior energy officials in recognition of their significant contributions to advance ASEAN's energy cooperation goals (6 awards), and (vii) Youth (3 awards).
- 20. The Meeting underscored the importance of supporting Timor-Leste's readiness to accede to ASEAN's energy-related legal instruments. The Meeting welcomed progress on the preparation of the Instrument of Accession (IoA) and reaffirmed their commitment to ASEAN's principle of inclusiveness. The Meeting noted that Timor-Leste's eventual participation will contribute to strengthening regional energy solidarity and deepen the spirit of ASEAN centrality.
- 21. The Meeting expressed sincere appreciation to the Government of Malaysia for its warm hospitality and excellent arrangements in hosting the 43rd AMEM and its Associated Meetings. The Meeting acknowledged the strong leadership of Malaysia in driving forward ASEAN's energy cooperation agenda and looked forward to building on these outcomes for the benefit of the ASEAN region.
- 22. The Meeting agreed to convene the 44th AMEM in 2026 in the Philippines.



Annex B

6th Joint Statement of the LTMS-PIP

SIXTH JOINT STATEMENT OF LAO PDR-THAILAND-MALAYSIA-SINGAPORE POWER INTEGRATION PROJECT 16 OCTOBER 2025

- **We**, Minister of Industry and Commerce of the Lao PDR, Minister of Energy of the Kingdom of Thailand, Minister of Energy Transition and Water Transformation of Malaysia, and Minister-in-charge of Energy and Science & Technology of the Republic of Singapore, have met on the occasion of the 43rd ASEAN Ministers on Energy Meeting (AMEM) and its Associated Meetings, hosted by Malaysia on 16 October 2025;
- 2 **RECALLING** that the Ministers of Lao PDR, Thailand, Malaysia and Singapore had issued five Joint Statements on the occasions of the 38th AMEM on 19 November 2020, 39th AMEM on 15 September 2021, 40th AMEM on 15 September 2022, 41st AMEM on 24 August 2023, and 42nd AMEM on 26 September 2024 to affirm our commitment to advancing multilateral and multidirectional power trade in ASEAN;
- RECALLING WITH GREAT SATISFACTION the successful commencement of the Lao PDR-Thailand-Malaysia-Singapore Power Integration Project (LTMS-PIP) on 23 June 2022, which established multilateral cross-border power trade of up to 100MW from Lao PDR to Singapore via Thailand and Malaysia using existing interconnections for a two-year period, marking a historic milestone as the first multilateral cross-border electricity trade involving four ASEAN countries;
- 4 **RECALLING ALSO** that the Ministers of Lao PDR, Thailand, Malaysia and Singapore had welcomed further discussions on the enhancements to the LTMS-PIP for advanced multidirectional power trade on the occasion of the 41st AMEM on 24 August 2023;
- 5 **RECALLING WITH GREAT CONTENTMENT** that the Ministers of Lao PDR, Thailand, Malaysia and Singapore had congratulated the implementation of multidirectional power trade with the inaugural LTMS-PIP flow from Malaysia to Singapore, reaffirming the project's role in realising the ASEAN Power Grid vision on the occasion of the 42nd AMEM on 26 September 2024;









DO HEREBY:

- **CONGRATULATE** all parties on the successful implementation of the multilateral and multidirectional cross-border power trade under the LTMS-PIP, which established power trade using existing interconnections from (a) Lao PDR to Singapore via Thailand and Malaysia, and (b) Malaysia to Singapore, hereby doubling the LTMS-PIP power trade to up to 200MW and achieving another historical milestone as the first multidirectional cross-border electricity trade involving four ASEAN countries.
- ACKNOWLEDGE the remarkable success of the LTMS-PIP which serves as a cornerstone of the ASEAN Power Grid, demonstrating the feasibility of multilateral and multidirectional cross-border power trade in enhancing energy security and grid resilience;
- 8 **REAFFIRM** our commitment to continue advancing multilateral and multidirectional cross-border power trade in ASEAN following the success of the LTMS-PIP;
- 9 **WELCOME** continued discussions between Lao PDR, Thailand, Malaysia and Singapore on further enhancements and future plans for the LTMS-PIP to support the continued multilateral and multidirectional power trade;
- **COMMEND** the continuing efforts of the LTMS-PIP Working Group, Taskforces and all stakeholders to monitor the technical, commercial, legal and regulatory aspects of cross-border power trade to ensure effective implementation of the LTMS-PIP;
- RECOGNISE the shared benefits of cross-border power trade to all parties by accelerating ASEAN's energy transition through investments in renewable energy projects, unlocking the region's abundant renewable potential and enhancing each country's energy security and grid resilience, and the LTMS-PIP's importance in contributing to the ASEAN Power Grid vision;
- 12 **REAFFIRM** our commitment to develop the ASEAN Power Grid for the collective benefit of the region, including continuing and advancing multilateral and multidirectional cross-border power trade in ASEAN following the success of the LTMS-PIP, as well as facilitating discussions on the development and passage of cross-border electricity interconnectors and subsea power cables which will form the backbone of the ASEAN Power Grid;









13 LEVERAGE the support of ASEAN Ministers on Energy for the LTMS-PIP as a pathfinder to complement existing efforts towards realising the ASEAN Power Grid and the ASEAN Economic Community by creating opportunities for multilateral and multidirectional electricity trading in the region, to strengthen grid resilience and promote energy integration to meet the rising electricity demand in the region.

On the 16th day of October, 2025







Annex C

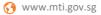
Singapore Winners of the ASEAN Energy Awards 2025

Category	Award Recipient	Key Highlights
Tropical Building-Energy Efficient Building	Winner: Building and Construction Authority (BCA)	The Phase 2 development at BCA Braddell Campus features a 16- storey Super Low Energy Building (SLEB) and a 7-storey Zero Energy Building (ZEB), strengthening the campus's role as a hub for sustainable innovation.
		Both towers share a basement car park and are connected by link bridges and a large multi-purpose hall on the seventh storey. Shading analysis and computational fluid dynamics (CFD) simulations shaped the SLEB's terraced form to reduce solar panel shading and improve airflow.
		The buildings combine robust passive design with naturally ventilated spaces and advanced active systems such as passive displacement ventilation, demand-controlled ventilation, high-efficiency cooling, and solar photovoltaics to achieve net zero and super low energy performance.
Special Submission: Zero Energy Building - Energy Efficient Building	Winner: National University of Singapore (NUS), College of Design & Engineering	NUS College of Design and Engineering, SDE1, is among the University's first adaptive reuse projects designed for high energy efficiency, low carbon and improved user comfort.
		Built in 1970s, the rejuvenation of SDE1 building retained key building structures (e.g. foundation, roof) and

















enhanced features to enhance energy performance (e.g. shading fins that reduce solar heat gain and hybrid cooling systems with fresh air).

This allowed SDE1 to achieve a low embodied carbon intensity of <200 kgCO2e/m2 and a best-in-class Energy Usage Intensity of 50 kWh/m2. The building is also selfsufficient in its energy needs with its rooftop solar panels.



