

Council Delegates

Argentina: Oscar Vignart
Australia: Katherine Woodthorpe
Belgium:
Canada: Axel Meisen
China: Li Xiaohong
Croatia: Vedran Mornar
Czech Republic:
Denmark: Nils Andersen
Finland: Mika Hannula
France: Michael Matlosz
Germany: Karen Wagner
Hungary: Norbert Babscan
India: Indranil Manna
Ireland: Tom Leahy
Japan: Yoshikazu Nakajima
Korea: Kim Kinam
Mexico:

Netherlands: Lucas Noldus
New Zealand: Cather Simpson (virtual)
Nigeria: A.P. Onwualu
Norway:
Pakistan:
Poland: Jerzy Barglik
Serbia: Milos Nedeljkovic, Serbia (virtual)
Singapore:
Slovenia: Matjaz Mikos
South Africa: Felix Reinders
Spain: Jaime Dominguez
Sweden: Tuula Teeri
Switzerland:
United Kingdom: Shane McHugh
United States: Al Romig
Uruguay: Adriana Gambogi

Additional Attendees

Elin Elliot, Sweden
Maria Rindeskar, Sweden
Seamus McKeague, Ireland
Pine Pienaar, South Africa
Tian Qi, China
Godwin Igwe, Nigeria/United States
Guru Madhavan, United States
Liu Chang, China
Rahamon Bello, Nigeria
Stane Pejovnik, Slovenia (virtual)

Gosta Lemne, Sweden
Nadine Aubry, United States
Neven Duic, Croatia
Jayant Patil, India
Shobhit Rai, India
Junghee Song, Korea
Chanmi Lee, Korea
WANG Chen, China
Martin Bech, Denmark
Zhu Yu, China (virtual)

Meeting Summary

CAETS President Mika Hannula convened the Council Meeting at 1450, providing opening remarks and welcoming all attendees.

Action Item: The Meeting Agenda was approved with the addition of a presentation by Neven Duic, Chair of the Working Group on e-Mobility.

Action Item: Minutes from the 10 October 2023 Council Meeting were approved as presented.

Report from Board Meeting: CAETS Secretary/Treasurer Ruth David summarized key items from the 1 July 2024 Board Meeting, addressing the following items:

- The Treasurer reported that the 2023 audit of CAETS financials was completed without issue. The final Audit Report, signed by the CAETS Audit Committee, which is Chaired by Jaime Dominguez, Spain, was included in advance meeting materials.

- The Treasurer discussed 2024 year-to-date Operating Expenses, noting that she expected to end the year under-budget. She also noted that Reserve Expenses were incurred by a visit to the Singapore Academy of Engineering by the Committee that reviewed the 2023 membership application.
- The Treasurer presented the 2025 Operating Budget as approved by the Board on 1 July, noting slight increases in projected expenses, while total projected expenses remain below projected revenues.
- The Secretary briefly discussed the 2024 CAETS Member Survey, observing that fewer than half of CAETS member academies responded. A summary of the responses was provided in advance meeting materials. She reported that the Board agreed the survey should be re-sent to members who did not respond to the first query, encouraging their participation. *[The second request for responses was disseminated on 1 August with responses due 1 September 2024.]*
- The Secretary described highlights from a Visiting Committee trip to Singapore, which was deemed quite valuable by the participants (Lucas Noldus, Netherlands; Cather Simpson, New Zealand; Ruth David, CAETS Secretariat). CAETS Participants found that Singapore's Academy of Engineering is actively engaged in critical national programs, has strong ties to Singapore's top universities, maintains strong ties to industry partners, and is keenly interested in expanding its already diverse portfolio of international partnerships via CAETS membership.
- A Board discussion focused on whether it would be beneficial to update CAETS policies to address concerns that have arisen in two broad areas. First, how CAETS might more effectively engage small, multi-disciplinary academies in which engineering is a sub-component in order to strengthen the engineering voice in more countries, noting that CAETS has as an objective: "Foster establishment of additional engineering academies in countries where none exist." Second, whether the resources required to host CAETS annual meetings may be too burdensome for some member academies to undertake (Norway, scheduled to host CAETS 2027, notified the Secretariat of its intent to terminate its membership; other academies have also expressed concerns). Following discussion, the Board established an ad hoc committee, to be assisted by the Secretariat, which will draft policy changes to address these issues. The Board will review the committee's draft and formulate a recommendation to the Council. Members of the ad hoc committee include Katherine Woodthorpe, President of the Australian Academy of Technological Sciences, a founding member of CAETS; Indranil Manna, President of the Indian Academy of Engineering, a 25-year member of CAETS; Rahman Bello, President of the Nigerian Academy of Engineering, CAETS member since 2019; and Cather Simpson, Convenor of Technology, Applied Sciences & Engineering (TASE) within the Royal Society of New Zealand, which was elected into CAETS in 2019 as the first multidisciplinary academy that includes a broad science base among its membership. The ad hoc committee will meet over the coming months, targeting a full Board discussion of policy options prior to the end of 2024.
- The Board discussed a request for CAETS endorsement of a proposal to designate an Engineering Day during COP-30 in Brazil (to be held 10-21 November 2025). The proposal is being spearheaded by Professor Tariq Durrani, Chair of the IEEE Climate Change Committee (International Member of the United States National Academy of Engineering and the Chinese Academy of Sciences, and Research Professor at the University of Strathclyde, Glasgow, Scotland) and will be sent to the UN Framework Convention on Climate. The draft proposal observes that engineers and engineering organizations worldwide play pivotal roles in the development of deployable solutions for mitigation, adaptation, and resilience in the face of ongoing climate change. Noting that several CAETS member academies (Australia, Canada, China, India, United Kingdom) had already endorsed the proposal and that

endorsement did not imply financial obligation, after discussion, the Board agreed to recommend to the Council that CAETS endorse this proposal.

Action Item: The Council agreed that CAETS should endorse the proposal to establish an Engineering Day during COP-30 in Brazil; the Secretary had the action to notify Professor Tariq Durrani. *[Notification was completed on 5 July; the proposal was submitted to the UN Framework Convention on Climate Change via the UNFCCC Executive Secretary, who indicated that “the thematic programme is managed by the host country – Brazil” and has forwarded the request to the UNFCCC Focal Point for Brazil. Professor Durrani will keep CAETS informed of progress/outcomes.]*

Action Item: The Secretary presented the CAETS Rotation Schedule, a copy of which was included in the advance meeting materials, noting the decision by the Norwegian Academy of Technological Sciences to terminate its CAETS membership, creating a gap in the 2027 hosting schedule. The Netherlands Academy of Engineering, previously scheduled to host CAETS annual meetings in 2032, agreed to move to the 2027 slot. The Secretary noted that meeting hosts are now confirmed through 2028. The Council approved the rotation schedule as modified.

Action Item: The Secretary noted that background materials for the 2025 Board Nominees were provided with the advance meeting materials. The Council approved all nominees; newly elected Board Members include:

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| 2025 President-Elect | Johann-Dietrich Worner | Germany |
| Board Member | Sean Finlay | Ireland |
| Board Member | Indranil Manna | India |
| Board Member | Gosta Lemne | Sweden |
| Board Member | Julio Fernandez Odella | Uruguay |

Action Item: The Secretary noted that other than the addition of two new members there were no changes to the CAETS Dues Schedule previously approved for 2025–2026. The schedule was approved as presented.

Information: Katherine Woodthorpe, President of the Australian Academy of Technological Sciences and Engineering, provided an overview of plans for CAETS 2025, which will be held in Brisbane, Australia, from 8–11 September 2025. The theme of the symposium is “Generations: An international symposium shaping a sustainable future in 50 years.” Plenary sessions will include 1) Navigating big tech, big data, misinformation, and the role of science and evidence in shaping sustainable systems; and 2) Fostering a climate of tech collaboration in the Asia Pacific Region and globally. Concurrent sessions will include fresh ideas and diverse perspectives in introducing new technologies with real world impacts; and considering technological advancements, international dialogues and workshops on technology. She issued a call for speakers to all CAETS member academies.

Information: Karen Wagner, Head of International Affairs for the National Academy for Science and Engineering (acatech), provided an overview of early plans for CAETS 2026, which will be held in Munich, Germany from 14–17 September 2026 (tentative dates). The symposium theme is: “From a distance: Earth observation for Monitoring, Comprehension and Change.” Three consecutive sessions are planned: 1) Introduction to the topic of remote sensing/earth observation; 2) Applications/use-cases for remote sensing/earth observation; 3) Applications/use cases and/or transdisciplinary research and communication. She encouraged CAETS member academies to send suggestions for partners and/or speakers (wagner@acatech.de).

Information: Axel Meisen (Canada), Chair of the CAETS Sequel Project, a follow-on to the 2022 Energy Report, provided an overview of the effort, which is nearing completion. The project team employed the Foresight/Scenario Creation methodology to define the ‘focal question’ and relevant timeframe; review past events and current

knowledge; identify drivers; identify critical uncertainties; develop scenario characteristics; and determine implications and strategies. The focal question defined for the project was “*what actions need to be taken now, and in the near future, so that sufficient technologies are available and realistically deployable to ensure low-GWH emissions from energy use in selected sectors beyond the year 2024?*” Selected sectors included Forestry; Oil & Gas Industry; Chemical Industry; Food & Agriculture; Carbon Capture & Storage; Hydrogen; Cement Industry; Iron & Steel Industry; Buildings & Smart Cities; and ICT & Data Centres. Axel presented the strategies developed by each sector together with several strategies applicable across all sectors. Next steps for the project are completion of chapters and solicitation of external reviews, after which the report will be disseminated for review by CAETS member academies.

Information: Lucas Noldus (Netherlands), Chair of the Communications Committee, provided an overview of the committee’s activities since the 2023 annual meetings and plans for the coming year. He reported that Jose Albarran Nunez, Mexico, had assumed the Deputy Chair position. He thanked the Australian Academy of Technological Sciences and Engineering for their provision of administrative support for the committee since inception and reported that the Chinese Academy of Engineering had agreed to support the committee going forward. He also reported that the committee has 33 members with representation from 20 of 33 member academies, inviting non-represented academies to designate representatives. He reported on the results from the 2024 CAETS Communication Prize competition, which included 12 entries from 10 academies, and shared lessons-learned. Lucas also identified issues and proposed solutions that could strengthen the committee and increase its impact on CAETS communications. Tuula Teeri, Sweden, emphasized the importance of the Communications Committee in helping professionalize CAETS Communications, noting the need to clearly identify, in advance, target audiences, and to ensure that communications are designed to address/influence those audiences.

Information: Shane McHugh (United Kingdom), Chair of the Diversity and Inclusion Working Group, reported on activities over the past year with emphasis on their Inclusive Events Discussion, which was chaired by Professor Dawn Bonfield. Presentations during that session stimulated conversation on what inclusive events are and what is required for an event to feel inclusive. There was agreement among the participants that a toolkit for inclusive events with a checklist for event managers would be valuable. Shane also reported that the D&I WG is being reframed as a community of practice—sharing good practice and developing guidance and toolkits for use by all member academies. While the UK Royal Academy of Engineering remains committed to nurturing the D&I community of practice, having chaired the D&I effort since inception, Shane invited other member academies to take on leadership responsibilities as chair or co-chair.

Information: Indranil Manna (India), Chair of the Engineering Education Working Group (EEWG), provided a summary of recent activities as well as near term plans. He reported that EEWG currently includes 22 active academies and another 11 that have expressed some interest. He discussed both the overall (long-term) objectives of the EEWG as well as immediate goals. Two topics have been identified for which sub-committees are preparing position papers for publication by CAETS: the language of instruction in Engineering Education and the adoption of artificial intelligence (AI)/natural language processing (NLP)/machine learning (ML) in Engineering Education. The WG’s intent is to have a draft of the AI paper by the end of 2024 and a publishable copy by March 2025, and to hold a larger discussion on the topic during CAETS 2025 in Brisbane. The work plan for the Medium or Language of Instruction paper is incomplete, but this topic, too, will be discussed in more detail during CAETS 2025.

Information: Shane McHugh (United Kingdom) provided a report on the Engineering for Sustainable Development Goals Working Group on behalf of David Thomlinson, who chaired the WG since inception. Shane acknowledged David’s strong personal commitment and leadership, noting that he had passed the

position to Professor Peter Guthrie OBE FREng, incoming chair. Shane also reported a ‘refresh’ of the WG, which was renamed Engineering for Sustainability WG with an overall purpose defined as: Promote the pivotal role of engineering in addressing global sustainability issues by positioning CAETS as an advocate for sustainable engineering practices globally. Shane ended his presentation by inviting member academies not currently represented on the WG to designate participants.

Information: Tom Leahy (Ireland) summarized the activities to date of the Artificial Intelligence Working Group on behalf of Barry O’Sullivan, Chair. He noted that the WG is relatively new, having met only once prior to the annual meetings. During its first meeting in June, members agreed to meet monthly, using Google Docs to share relevant information. WG members also agreed that their initial effort would consist of a horizon scan to identify topics relevant to the nexus of AI and Engineering, with emphasis on those areas in which CAETS could add value. A brief position paper will be developed based on the challenges and opportunities for each topic. Subsequent work may include deep-dives into specific areas of interest identified in the initial paper.

Information: Neven Duic (Croatia), Co-Chair of the Energy WG Report on transport decarbonization (Chris Hendrickson, United States, served as Co-Chair), summarized the report, which is ready to enter the CAETS review process. The report is titled “*Navigating the Future: A Report on the Current State and Future Path of Energy Transition in the Transport Sector.*” The motivation for this effort stems from several factors: the topic was not addressed in two previous CAETS energy reports; there are crucial bottlenecks in this decade; transport is the most difficult sector to decarbonize; and a small country can have an impact on EV technology. The report includes chapters on: Battery development for EVs; Integration of power and transport system; Car industry transformation; Hydrogen and fuel cell technologies in transport; E-fuels other than hydrogen; Modal shift, can it help?; Developing countries and decarbonization of transport, barriers, and opportunities; and Operating Electric Vehicles. *[The report was disseminated for review by CAETS member academies on 1 August 2024.]*

New Business: Lucas Noldus, Netherlands Academy of Engineering (NAE), described the NAE’s Young Engineers program, in which young engineers become NAE members for a fixed term of 5 years. NAE’s aim is to engage emerging talent, to leverage their valuable perspectives, and to ensure openness to novel innovations and approaches. The NAE Young Engineers would like to establish contact with peer groups in other countries to expand their international networks. CAETS member academies were invited to help connect similar activities with the NAE Young Engineers.

Recognition for CAETS Service: The President presented award certificates to the following individuals, thanking them for their service to CAETS:

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| Vedran Mornar, Croatia | President (2023), Past-President (2024) |
| Nadine Aubry, United States | Board (2023-2024) |
| Lucas Noldus, Netherlands | Board (2023-2024) |
| Andras Sollosi-Nagy, Hungary | Board (2023-2024) |
| Jaime Dominguez, Spain | Board (2023-2024) |

There being no further business, CAETS President Mika Hannula adjourned the meeting at 1745.