

Under Pressure — Reshaping our Future

12th Half-Lustrum February 2025

Symposium Booklet



Mijnbouwkundige Vereniging
Study Association Applied Earth Sciences





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Mining technology for a sustainable future



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UNDER PRESSURE

Introduction

Dear Sir/Madam,

Since its founding in 1892, the Mijnbouwkundige Vereeniging – the study association of Applied Earth Sciences at Delft University of Technology – has grown to be a bridge between students, alumni, and companies. Throughout the year the association aims to host events for all students, graduates, professors and staff of our department whose specialties range across mining engineering, resource processing and recycling, metallurgy, petroleum engineering, offshore technology, (reservoir) geology, engineering geology, environmental engineering, geosciences, and geophysics.

To commemorate the founding of the Mijnbouwkundige Vereeniging, we will organise our 12th half-lustrum from the 17th to the 22nd of February 2025. This week will be filled with diverse activities and events, which include company excursions, a gala night and an alumni dinner. This year we will also make place for a unique networking event where companies can talk to the most enthusiastic and ambitious students and graduates of the association. The half-lustrum week will revolve around our theme:

Under Pressure – Reshaping our Future

This theme alludes to the pressure experienced by all members of society to safeguard our future; engineers, academics, politicians, and company executives alike are faced with the challenges of the energy transition. Moreover, it also recognises our capacity to thrive and innovate under pressure, leveraging it as a catalyst for progress. These challenges and their potential solutions will be highlighted in our International Symposium.

Reshaping our Future



The overarching goal of the symposium is to demonstrate and discuss the late innovations occurring within our disciplines today; through this interaction we seek to impart a renewed sense of inspiration, excitement, and curiosity to the future drivers of the energy transition. Through this event, we aim to attract a broad audience comprising students, staff and alumni of different backgrounds and perspectives.

Our symposium will feature speakers who are seasoned professionals in diverse fields such as climate, water management, nuclear waste storage, hydrogen, and more. These topics represent the future of our industry, signalling a crucial step towards sustainability and longevity. From resource management to energy transition and climate resilience, we will explore key aspects across various disciplines. Our discussions won't be confined to technical matters; we'll delve into the economic, social and political dimensions as well. After the symposium there will be a dinner provided for the speakers to interact with the Committee of Recommendation and the organizers of the symposium.

Yours sincerely,

Tanvi Kiran

Commissioner of Symposium 12th Half-Lustrum Committee



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Committee of Recommendation

The Committee of Recommendation is an important advisory committee for the Half-Lustrum Committee in organising the symposium and half-lustrum week. The members of the Committee of Recommendation connected us with the industry and scientific world. We are very delighted with the composition for this half-lustrum and we believe that, with their support, we can make the 12th Half-Lustrum of the Mijnbouwkundige Vereniging a great success.

ir. Peter Kütemann

Founder and Chairman of Dietsmann NV and Honorary Member, Delft Mining Association ('MV')

Dr.ir. Rénard Chaigneau

Senior Manager, Technical Marketing at Baffinland and Honorary Member, Delft Mining Association ('MV')

Leendert-Jan Ursem

Managing Director at Sky Energy Partners and Honorary Member, Delft Mining Association ('MV')

Lex de Groot

Managing Director at Eni Energy Netherlands B.V.

ir. Lijs Groenendaal

Director Hydrogen — The Netherlands at RWE

Frank Maartense

Programma Manager Techniek at Geothermie Nederland

Stefan Aarninkhof

Dean of the Faculty of Civil Engineering and Geosciences

Anne Pluymakers

Assistant Professor TU Delft, Current Board member Royal Geological and Mining Society of the Netherlands, ('KNGMG')

Sandra Verhagen

Director of Studies Applied Earth Sciences (BSc and MSc), Associate Professor at TU Delft

Riccardo Riva

Associate Professor at TU Delft

Prof.dr. William Rossen

Emeritus at TU Delft

UNDER PRESSURE SYMPOSIUM

Pathé Delft
February 18th 2025



9:00

Doors Open

9:30
Hall 6

Opening Statements

Director of Studies Sandra Verhagen
Symposium Commissioner Tanvi Kiran

9:45

Kornelis Blok | TU Delft
Hall 6

*Reshaping Tomorrow:
What We Must Do Today*

10:30

Lijs Groenendaal | RWE
Hall 6

*Hydrogen's Next Decade: Trends to
Watch and Challenges to Overcome*

11:15

Coffee Break

Innovative Energy Technologies

Mining and Well Exploration

11:35

Dirk Rabelink | ULC-Energy
Hall 6

Tako de Wit | Caterpillar Inc.
Hall 7

12:20

Jorien Schaaf | EBN B.V.
Hall 6

Volkert de Ruiter | WEP
Hall 7

13:05

Lunch Break

Geospatial Science for Conservation

Water Management & Climate Risks

14:05

Sabine Gollner | NIOZ
Hall 6

Marthe Wens | IVM, VU Ams.
Hall 7

14:50

Aurélie Shapiro | FAO
Hall 6

Albrecht Weerts | Deltares
Hall 7

15:35

Break

15:55

Panel Discussion
Hall 6

*"Bridging the gap between policy-making, education,
industry, and economics in the energy sector".*

Kornelis Blok | Tako de Wit | Jeroen Mutsaers | Paul Nillesen

17:00 - 18:00

Drinks





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Moderators



Laura Bergshoef

When asked what she wanted to be when she grew up, Laura Bergshoef always answered as a child: a Jacques Cousteau, Neil deGrasse Tyson or Carl Sagan. What they have in common: they share their science adventures with the public. That's why she studied both science and art to become a documentary filmmaker. Later, she fell in love with (science) writing. Now Laura is a journalist at NRC, writing about technical topics like the energy transition, climate and astronomy.



Dr. Sebastian Geiger

Prof. Dr. Sebastian Geiger is the Professor of Sustainable Geoenery and Energi Simulation Chair at the Department of Geoscience and Engineering at the Delft University of Technology. Sebastian is the Editor-in-Chief for the journal Geoenery and works closely with professional societies such as the European Association of Geoscientists and Engineers. He is also an instructor for HOT Engineering, is a Board Member for the Scottish Energy Forum, and a scientific advisor to NAGRA. Together with Dr Hadi Hajibeygi, he created the Geoscience and Geoenery YouTube Channel, which broadcasts webinars.



Symposium Sponsor



Energising the transition

EBN is a not your average company in the energy sector. Our shares are 100% owned by the Dutch state. Based on our public task, EBN uses knowledge and its power to make connections that help accelerate the implementation of Dutch energy and climate policy with the aim of a sustainable, reliable, and CO₂-neutral energy system in 2050 at the lowest possible social cost. With its extensive knowledge of the subsurface, EBN participates in more than two hundred partnerships. Originally in oil and gas, now also in CO₂ storage, geothermal energy, and the development of sustainable gases.

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Keynote Speakers



Kornelis Blok

Kornelis Blok has worked his entire professional life on the energy transition. When he was 28, he co-founded a consultancy company, Ecofys – now part of Guidehouse. With this company he has worked on the technical development of renewable energy sources, and later on the development of European energy, and climate policies. Ecofys has also helped companies to reduce their green-

house gas emissions. A landmark achievement was the development of the so-called Sectoral Decarbonisation Approach, which is now used by many companies to set their greenhouse gas emission reduction targets. At the same time, Kornelis Blok has always held academic positions, first at Utrecht University and now at Delft University of Technology where he holds a chair in energy systems analysis. Kornelis has published over 130 peer-reviewed scientific articles on topics like industrial energy and carbon efficiency, energy impacts of consumption patterns, energy systems based mainly on renewable sources, carbon-capture-and-storage, and the design of international climate policies. Kornelis Blok is a lead author for the 3rd, 4th and 6th Assessment Reports of the Intergovernmental Panel on Climate Change, the institution that was awarded the Nobel Peace Prize in 2007. He is now member of the Netherlands Scientific Climate Council and chairman of the Technical Council of the Science-Based Targets Initiative.



Lijs Groenendaal

Lijs is a proud alumna of Applied Earth Sciences (formerly Mining and Petroleum Engineering) and has spent her career chasing energy molecules across the value chain. With over 25 years of experience in the energy industry, she is a seasoned leader and business developer in the energy transition. Lijs is currently serving as the Director Hydrogen Netherlands at RWE. She oversees RWE's

green hydrogen initiatives across the Netherlands, managing a portfolio of approximately 1 GW of projects. Her responsibilities include market development, team building, and stakeholder management to drive policy and project development. Since 2020, Lijs has been active in green hydrogen business and project development, bringing major projects towards investment decisions and construction. She initially worked on these initiatives for Shell, where she managed the Holland Hydrogen 1 project, a significant 200 MW electrolyser development in the Port of Rotterdam, a project which is now in construction. Her expertise extends beyond hydrogen, having played a pivotal role in the Lake Charles LNG project in the US and leading deal transitions and joint ventures for major oil and gas developments worldwide. Her contributions to the hydrogen field have been recognized with various awards and inclusion in the "50 Women in Hydrogen" list in 2022, in the category of "Projects and Partnerships".



ENI ENERGY NETHERLANDS



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WE ARE ALSO COMMITTED TO HELPING HARD-TO-ABATE INDUSTRIES TO DECARBONISE AND CONTRIBUTING TO THE DUTCH CLIMATE GOALS VIA OUR LOW-CARBON PROJECTS, WHILE WORKING ON OUR OWN NET ZERO TARGET.

The RWE logo is displayed in a bold, blue, sans-serif font. It is positioned at the top center of the image, set against a dark, metallic background that appears to be part of a large industrial structure. The background also features green lifting straps and yellow circular components.

RWE

Everyone is talking about green hydrogen. We make it.

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Speakers



Dirk Rabelink

Dirk is founder and CEO of ULC-Energy, a nuclear development company and consultancy based in the Netherlands. ULC-Energy's mission is to develop nuclear energy projects and deploy small modular reactor technology in the Netherlands. Dirk holds a Master's degree in Metallurgical Engineering from the Technical University of

Delft and was trained as an investment banker in London before joining BHP in various commercial and strategic roles. He has 25 years of experience in energy and energy-intensive industries and has worked and lived extensively in Europe, Asia and the US.



Jorien Schaaf

Jorien has a 20+ year career in the E&P industry as well as in the Energy transition. She studied at Delft University of Technology and is geophysicist by background. After a career at one of the main oil&gas operators in the Southern North Sea, she decided to change her career path towards renewable energy. She took an assignment at State Supervision of Mines after which she started at Energie Beheer Nederland (EBN) in 2018. Last year she took on a new role as Manager Technology in the Business Unit CO2 Transport & Offshore Storage, taking part in both the Porthos and Aramis projects.



Tako de Wit

Graduated in 1993 from Delft University of Technology with a Master of Science degree in Mining Engineering and Mineral Processing as well as from Imperial College, Royal School of Mines in London with a Master's in Mining Engineering and Rock Mechanics. He was appointed in 2012 as Europe and Turkey regional Mining manager for mining Equipment Sales and Support. He is currently the Regional Mining Director responsible for sales and product support for the Mining Machines, both surface and underground, as well as dealer development for the mining market the above-mentioned territories.



Volkert de Ruiter

Volkert is a project manager at Well Engineering Partners with 19 years of Engineering, Operational and Management experience. He has an MSc in Mining Engineering from the Technical University Delft in The Netherlands. He has planned and coordinated the execution of multiple well services, drilling operations and plug and abandonment operations. Geothermal, O&G, and salt solution mining projects were mainly done in The Netherlands, France, Germany and the Middle East. Well-service projects include wireline, snubbing, and coiled tubing operations.



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Speakers



Dr. Sabine Gollner

Sabine Gollner is a deep-sea benthic ecologist at the Royal Netherlands Institute for Sea Research (NIOZ). Her current studies include biodiversity, connectivity and resilience of deep-sea hydrothermal vent fauna, as well as diversity and restoration of fauna after test-mining impact at polymetallic nodule fields. Sabine has participated and led several research expeditions on the high seas, including dives in submersibles and work with Remotely Operated Vehicles. Sabine is member of the Netherlands Ocean Decade Committee and co-lead of the Minerals Working Group of the Deep Ocean Stewardship Initiative.



Dr. Aurélie Shapiro

Aurélie is an independent consultant based in Berlin, Germany providing remote sensing, GIS (Geographic Information Systems) spatial data analytics for environmental, biodiversity and sustainability projects through her company: Here+There Mapping Solutions. She is currently supporting the Food and Agriculture Organization of the United Nations (FAO) as Chief Technical Advisor supporting various projects. Aurélie has a PhD in Natural Sciences from Humboldt Universität-zu-Berlin and a Master's in Environmental Management from Duke University's Nicholas School of the Environment in 2001.

Reshaping our Future



Dr. Marthe Wens

Marthe is an assistant professor in the Department of Water and Climate Risk at the Institute for Environmental Issues of the Vrije Universiteit Amsterdam. Her research concerns water insecurity and its societal impacts, with a specific focus on mapping the complex relationship between drought risk and human adaptation behaviour.

She creates drought disaster risk profiles to support policy on risk reduction and teaches about nature-based solutions to water risks. She is a climate justice activist with Scientist Rebellion and enjoys speaking about the impacts of climate change.



Dr. Albrecht Weerts

Albrecht is a hydrologist and data model integration expert at Deltares. He holds an MSc from Wageningen University and a PhD from the University of Amsterdam. Following a Marie Curie Postdoc at Unilever R&D Colworth, where he researched tea leaf hydration, he joined Deltares in July 2002. Currently, Albrecht investigates

the predictability of the hydrological system driven by weather and climate. His research is focusing on improving predictions of hydrological processes at different spatial and temporal scales. He leads the scientific development of a scalable and globally.



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Panelists



Jeroen Mutsaers

Jeroen is an accomplished policy and advisory professional with an academic background in sociology and sustainable development. After earning his Bachelor's degree from Tilburg University and a Master's degree from Lund University in Sweden, he specialized in sustainability and climate adaptation strategies. Having held various positions within government organizations, he has developed policies for critical infrastructure and climate resilience. Now, he is working at the Ministry of Infrastructure and Water Management on radioactive waste management with a focus on the final repository.



Dr. Paul Nillesen

Paul is an advisor to executives in the energy and utilities industry for Strategy& Amsterdam. He leads the Energy, Utilities & Resources industry for PwC Netherlands as well as the global Power & Utilities Advisory Practice. Paul focuses on energy and utilities (including water and waste) and helps clients understand the changing market they operate in, adapt for the future, and realize value. He has extensive experience in energy and waste markets, financial and economic analysis, regulation, and expert witness roles across various sectors.

Tako de Wit and Kornelis Blok will also join the panel

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Stichting Erfgoed Mijnbouwkunde Delft ('EMD')

De uitgave van dit Jaarboek is mede mogelijk gemaakt door een sponsorbijdrage van de **Stichting Erfgoed Mijnbouwkunde Delft**. Deze stichting 'EMD' is in 2015 ontstaan door het samengaan van twee voorgaande stichtingen, te weten de stichting **Steunfonds Mijnbouwkundige Vereeniging** (uit 1995) en de stichting **Cultureel Erfgoed Aardwetenschappen** (uit 1998) en is door de Belastingdienst aangemerkt als een zgn. (culturele) Algemeen Nut Beogende Instelling ('**C-ANBI**').

De Stichting beoogt het eren en bevorderen van *'het historisch, cultureel, wetenschappelijk en educatief erfgoed van aspecten van de Mijnbouwkunde en de (Nederlandse) (technische) Aardwetenschappen, alsmede het instandhouden van dit erfgoed en het verspreiden van kennis op het vlak van de Mijnbouwkunde en de (technische) Aardwetenschappen...'*



De Stichting tracht haar doelen te bereiken door, onder meer:

-het bevorderen en bestendigen van het functioneren van de Mijnbouwkundige Vereeniging, zoals in 1892 opgericht en sindsdien gevestigd te Delft;

-het (mede) in standhouden van het gebouw uit de 17e eeuw en de mijnbouwkundige sociëteit 'Het Noorden', gevestigd in het pand Noordeinde 2 te Delft...;

Het EMD is dus bedoeld is voor ondersteuning van de Mijnbouwkundige Vereeniging en/of 'Het Noorden' en cultureel-mijnbouwkundige activiteiten. Daarnaast worden evenementen gesponsord, zoals bijv. een 'CultuRally' of excursie, of speciale gelegenheden/ jubilea/ lustra/ symposia/ boek, met een cultuur-historische aardwetenschappelijke component.

Mocht u hiervoor een bijdrage over hebben, dan is dat uiteraard zeer welkom!

Stichting Erfgoed Mijnbouwkunde Delft: **IBAN: NL34 INGB 0007 0022 26**

Het Bestuur bepaalt jaarlijks de hoogte van de in ieder jaar te besteden middelen, waarbij het langetermijn-perspectief van de Stichting in het oog wordt gehouden. Daarnaast is het bestuur actief in het beoordelen van ontvangen sponsorverzoeken en het vinden van de benodigde financiering(-en).

Het bestuur bestaat uit:

Voorzitter - Dr. ir. R. Chaigneau
Secretaris - Drs. ir. D. Drenth
Penningmeester - Ir. L.J. Ursem
Senior lid - Ir. F. Maartense
Student Lid - Dhr. T. Reurink

Algemeen Nut
Beogende Instelling
ANBI
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Het secretariaat is gevestigd op de Kattendijk 163, 2831AD Gouderak, tel. 06-17798107.

Website: <https://mv.tudelft.nl/association/heritage-mijnbouwkunde-delft/>



GLÜCK AUF!



Culturele ANBI status toegekend. RSIN nr. 8558.25.315.



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Organizers

12th Half-Lustrum Committee of the Mijnbouwkundige Vereniging



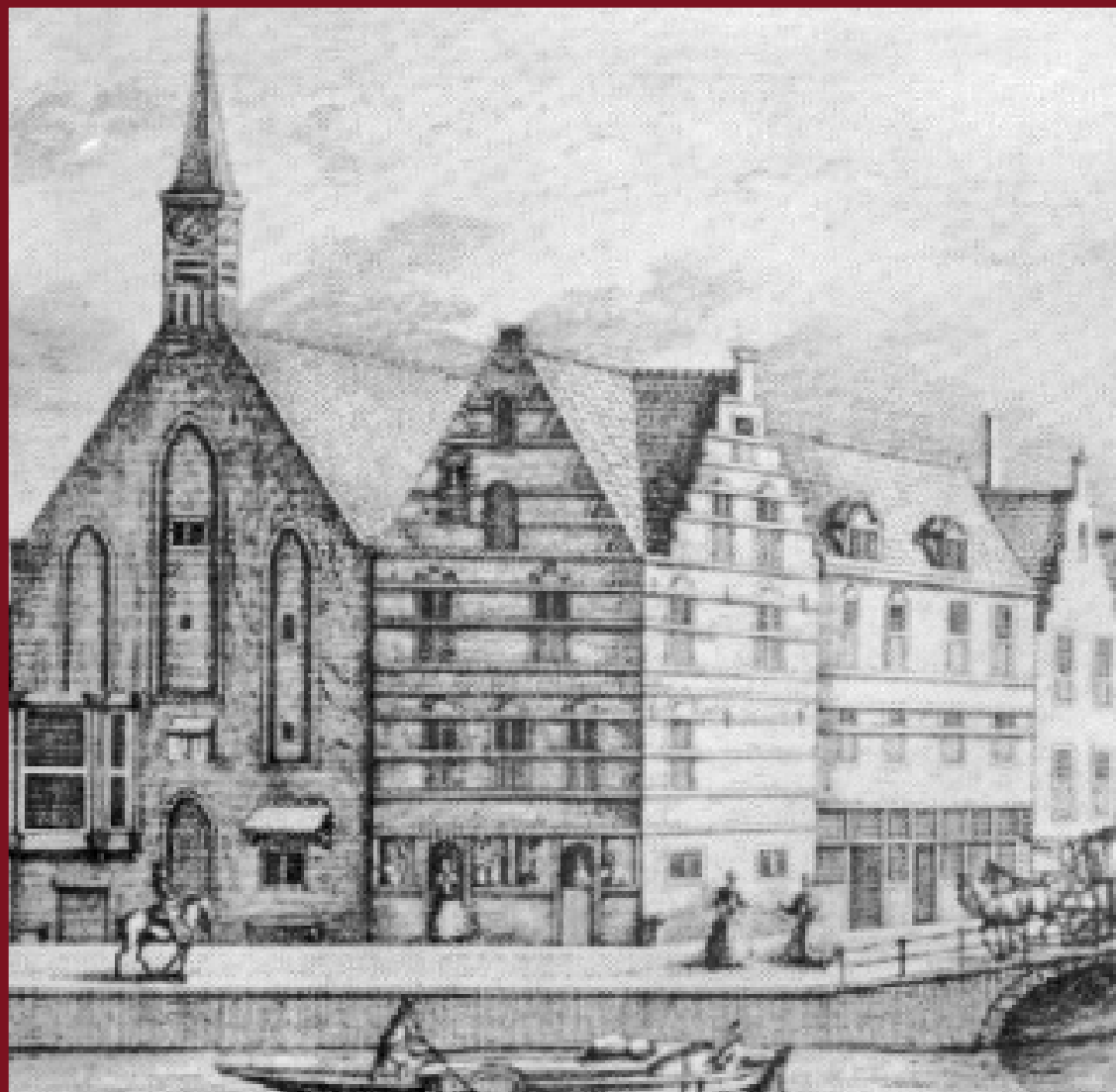
Tanvi Kiran, Michael van Voorst, Timo Brands, Fionnah Kerr, Hugo Jak (phot. Stijn Kuiper)

Symposium Committee



Commissioner of Symposium
SymCo
SymCo
SymCo

Tanvi Kiran
Danilo D'El Rodrigues
José Maria Camacho Gomez
Suzanne Romijn



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