



Innovation Arena: Bridging University- Industry-Society to Advance Sustainability

A COP28 Event in the Green Zone

December 6

Dubai, United Arab Emirates

Green Zone, Impact Hub

DP World Pavilion, 5th floor, Majilis Room

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Introduction & Background

Thank you for joining our distinctive Council on Competitiveness + Global Federation of Competitiveness Councils “Innovation Arena”—an effort to highlight at the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC or COP28) the roles universities, national research laboratories, and the public and private sectors can play together in driving transformation toward a low-emission and climate-resilient world.

Building on multi-decade, multisectoral policy work and concrete action, the Council and the GFCC aim, in particular, to advance the critical role that innovation plays in combating climate change.

COP28 leadership—recognizing the unique alignment of leaders across many stakeholder communities in the Council—approached Council Chair Brian Moynihan (Chair and CEO, Bank of America) to consider catalyzing the Council and its flagship initiative, the **National Commission on Innovation and Competitiveness Frontiers**, to contribute new ideas and leaders to the 2023 COP dialogue process. In turn, the Council approached its sister organization, the GFCC, to join in co-developing an “Innovation Arena” for COP28.

The “Innovation Arena” will be an intimate, high-level gathering of leaders from research universities, industry, national research organizations, and non-profits to exchange ideas, surface actionable solutions, and form ongoing partnerships to reduce emissions, build more climate resilience into societies, and find opportunities to invest more in climate mitigation and adaptation efforts.

This guide is designed to share the “Innovation Arena” agenda, a list of participants, bios on our key speakers, and key logistical information. We look forward to meaningful and engaging discussions with all of you at the 2023 “Innovation Arena” at COP28. Should you have questions before, during, and after the “Innovation Arena,” please contact co-designers: Chad Evans, Executive Vice President, Council on Competitiveness (cevens@compete.org; +1-703-945-7917) and Roberto Alvarez, Executive Director, GFCC (ralvarez@thegfcc.org; +1-240-360-6615).

Meeting Notes

- The event will be recorded and photographed.
- Images, audio, and video may be used in post-event materials. By participating in this event, you consent to the use of these images, videos, and audio by the Council on Competitiveness and/or the GFCC.
- The dress code for the “Innovation Arena” is business attire.

Key Contacts

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Background on COP & COP28 UAE

What to know about COP28

COP28 stands for the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). It is an annual event during which representatives from nearly 200 countries come together to negotiate and agree on actions to address climate change, limit emissions, and combat global warming.

While the overall goal of COP28 is to unite the world in finding practical and ambitious solutions for climate change, this year's conference comes with the release of the first [global stocktake](#)—the global report card on our climate progress within the context of [the COP21 Paris Agreement](#). Signed by 196 parties in November 2016, it sets a target of limiting global average temperature rise to below 2° C (3.6° F), while actively aiming for 1.5° C (2.7° F) above pre-industrial levels.

The global stocktake assesses various aspects related to climate change, including progress in cutting emissions, building resilience, and gathering financial support. It identifies gaps and opportunities for stronger action and will guide climate policy, enhance climate actions and, ideally, support and strengthen international cooperation.

The global community is expected to receive a poor grade on the first stocktake. The world is already 1.2° C warmer than in pre-industrial times and, despite a huge increase in the number of countries setting CO₂-cutting targets since the Paris Agreement, the global community is not doing enough to limit emissions. The stocktake will serve as another wakeup call, as the United Nations estimates the world will warm closer to 2.5° C, missing the 1.5° C goal by a wide margin. **Consequently, a critical goal for COP28 is to keep the ambitions of the Paris Agreement alive.**

The challenges facing the world in curbing climate change are complex—from shifting away from fossil fuels to advancing sustainable agriculture practices to prioritizing the Global South to promoting nature-based solutions. So, unsurprisingly, the agenda for the two-week COP28 forum is extensive. The host country guides the agenda with input from global collaborators, and COP28 President-designate Dr.

Sultan Ahmed Al Jaber, Minister of Industry and Advanced Technology of the UAE, managing director and CEO of Abu Dhabi National Oil Company (ADNOC), and the chairman of renewable energy company Masdar, has identified the following key discussion tracks for the gathering:

1. Fast tracking the energy transition and slashing emissions before 2030.
2. Putting nature, people, lives and livelihoods at the heart of climate action, including helping the most vulnerable communities adapt to the change that's already occurring.
3. Delivering on old promises and set the framework for a new deal on affordable, available, and accessible finance for climate projects—particularly in developing countries.
4. Mobilizing the most inclusive COP ever, ensuring that discussions and decisions, and how the solutions are implemented, are inclusive and done in collaboration with Indigenous Peoples and local communities.

How is the Council on Competitiveness and the GFCC supporting the effort?

With the world's top policymakers and climate experts coming together at COP28, there is a tremendous opportunity to advance the critical role that innovation—particularly that which occurs through the intersection and partnership of industry, academia, research organizations, and the public sector—plays in combating climate change.

COP28 will center itself in Expo City Dubai in two zones: the Blue Zone for formal negotiations and official side events, and the Green Zone for non-accredited delegates to showcase their contributions and solutions to the global climate challenge. The [Council on Competitiveness'](#) (CoC) and [Global Federation of Competitiveness Councils'](#) (GFCC) "Innovation Arena" will take place in the Green Zone (specifically, on December 6th, 10am-12:30pm in the DP Pavilion—"Impact Hub", 5th floor "Majilis" room).

As countries work to update and align their climate plans, the CoC and the GFCC will bring together experts from leading research universities, as well as government and business leaders, and create an “Innovation Arena” where ideas will be exchanged, solutions surfaced and partnerships formed—all in attempt to reduce emissions, build more climate resilience into societies, and find opportunities to invest more in climate mitigation and adaptation efforts.

Specifically, over the 2.5-hour session, the discussion will:

1. Identify the most critical, high-leverage challenges related to a series of sustainability action areas.
2. Map potential contributions from universities, in partnership with industry, national laboratories, and other key stakeholders.
3. Surface key enablers for action.
4. Connect leaders—“south and north”—while building pathway for continued engagement in 2024.

If we have any hope of keeping the planet livable for future generations, dramatic climate action is needed now. The CoC and GFCC’s Innovation Arena is one opportunity at COP28 for world leaders to come together and take important steps towards this imperative.

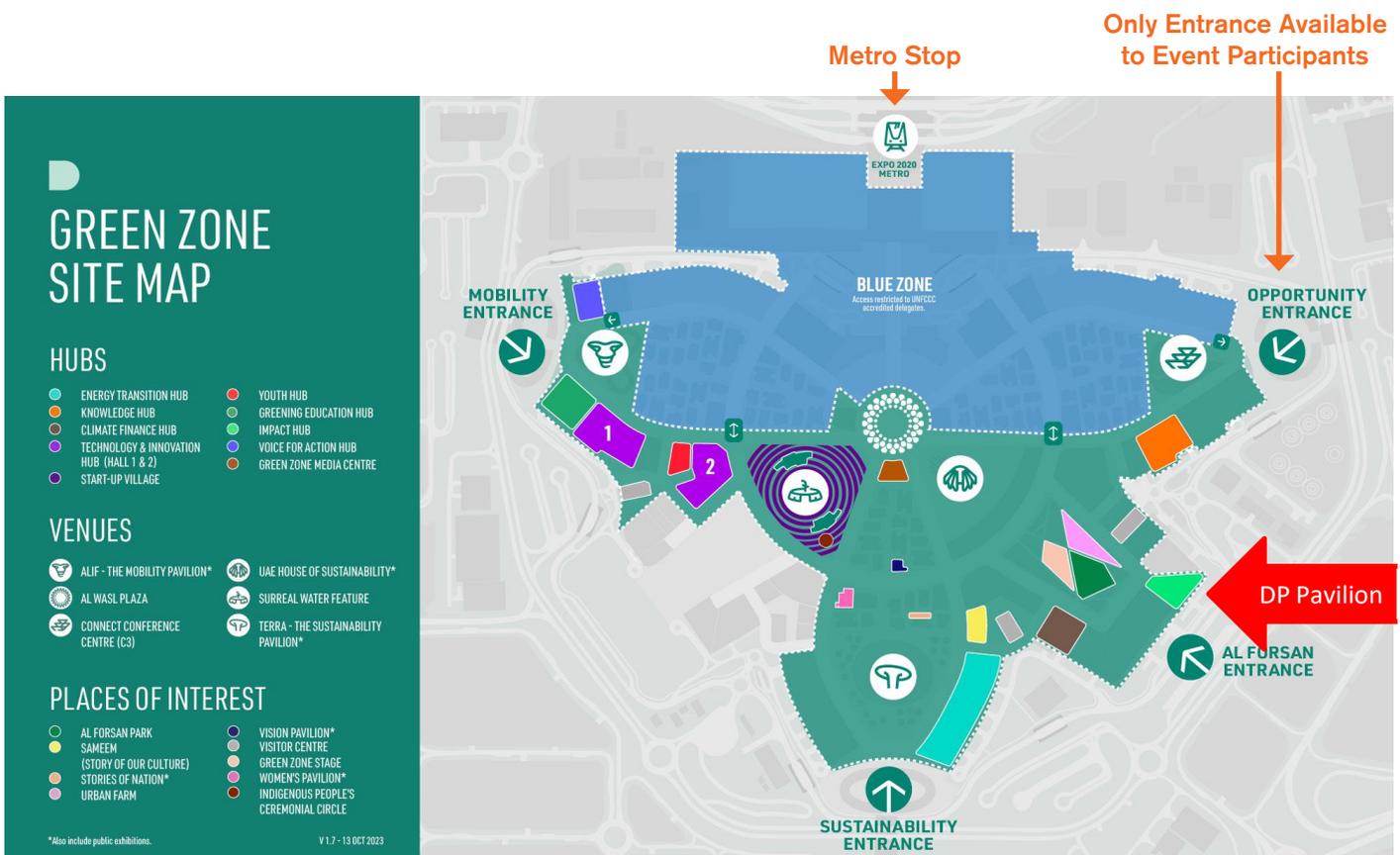
What important milestones and outcomes have come from previous COPs?

1. **1972.** The formation of the UN Environment Programme (UNEP) after the first Earth Summit.
2. **1992.** The establishment of the UNFCCC (United Nations Framework Convention on Climate Change) at the Earth Summit.
3. **1995.** Berlin, Germany, hosts the first UNFCCC Conference of the Parties (i.e., COP1).

4. **1997. The Kyoto Protocol** is adopted, setting GHG emission reduction targets for industrialized countries. In it, most industrialized countries agreed to greenhouse gas emission reductions of 6% to 8% below 1990 levels between the years 2008–2012. The United States would be required to reduce emissions by 7% below 1990 levels, but Congress did not ratify the treaty after Clinton signed it.
5. **2009. The Copenhagen Accord** included commitments from industrialized countries to reduce emissions and provide financial support to developing countries for climate action.
6. **2015. The Paris Agreement** aims to keep global temperature rise well below 2 degrees Celsius and pursue efforts to limit it to 1.5 degrees Celsius.

These are just a few examples of key moments and the impact of COP. Each COP has contributed to the global efforts to tackle climate change in its own way. The location for COP29 has not been announced, but COP30 is slated for Brazil.

“Innovation Arena” – Venue & Logistics



Location

In the DP World Pavilion/Impact Hub at Expo City Dubai. We are in the “Majilis Room,” 5th floor. (Red arrow on map.)

Navigation to the Opportunity Entrance

- If arriving by metro (recommended), you will find shuttle buses.
- Take one (arriving every 5-10 minutes) to the Opportunity Entrance. (Do NOT get off at the Al Forsan entrance or any other entrance.)
- We are not sure at this time if the shuttle buses will proceed “clockwise” or “counterclockwise”—so please be vigilant and monitor for hop-off at the **Opportunity Entrance**.
- If arriving by taxi/rideshare, get dropped off at the Opportunity Entrance.

Arriving at the Opportunity Entrance

Be prepared to show your Dec. 6th-specific daily QR code and have an official government-issued ID. You will proceed through a security checkpoint, and then walk approximately 10-minutes to the DP World Pavilion.

Entering the DP World Pavilion

Enter through the back entrance of the building. Check-in to the Council/GFCC “Innovation Arena” at the registration desk in the lobby—and then proceed to the Majilis Room.

Planning note: Depending on where you’re staying in Dubai, it may take an hour to travel to Expo City Dubai. Once you arrive to Expo City Dubai, it may take another hour to travel through security and arrive at the DP World Pavilion—“Impact Hub.”

With this in mind, COP28 planners suggest participants in our event—who are staying across the city—devote 2 hours on December 6th to reach our venue.

Registration and Arrival

Registration & Daily Green Zone Passes

First, prior to the December 6th “Innovation Arena”, **every person attending**—even if not in a formal speaking role—**must have registered officially with the UAE government.** This is UAE requirement for anyone who might speak or simply ask a question during an event, etc. You should have registered with the UAE government here:

<https://app.smartsheet.com/b/form/7e6f767c3335452383baaa0ca514aef9>

Second, access to the Green Zone each day requires a specific ticket/daypass/QR code. You cannot enter the Green Zone on any given day without having an individually specific QR code.

At a minimum, make sure you download a QR code/daypass for our event day, December 6th—without this, you will not be able to enter the Green Zone to access our event venue.

Daily QR codes are first come, first serve. Secure your daily passes/tickets/QR Codes here:

www.cop28.com/tickets

Arriving at Expo City Dubai

The Council on Competitiveness + GFCC “Innovation Arena” will take place December 6th, 10am-12:30pm local time at Expo City Dubai in the DP World Pavilion—“Impact Hub” (5th floor, “Majilis Room”).

On December 6th, attendees should plan to leave hotels/lodging around 8am – as either the metro or Uber/taxi could take up to an hour to reach Expo City Dubai. And then, you will need to allow for another hour to reach the “Opportunity Entrance” (one of several official entrances; you must use this entrance for easiest access to our event); go through security (with QR code and ID); and make a 10-15 minute walk to the DP World Pavilion—“Impact Hub.”

If arriving via a taxi or other ridesharing service, make sure to tell your driver to take you to the Opportunity Entrance of Expo City Dubai.

Frequently Asked Questions

Do I need a visa to enter the UAE?

It depends on the passport you will be carrying. Quickly check this link:

<https://u.ae/en/information-and-services/visa-and-emirates-id/do-you-need-an-entry-permit-or-a-visa-to-enter-the-uae#:~:text=Anyone%20who%20does%20not%20have,the%20purpose%20of%20your%20visit>

It will provide you with all the information you require.

For example, if you are travelling on a USA passport, you can get a visa on arrival.

Will transportation be provided?

Each "Innovation Arena" delegate is responsible for their own ground transportation in Dubai. Please check with your hotel for transportation opportunities to the Expo City Dubai. COP28 organizers have strongly suggested using public transportation/metro to access Expo City Dubai.

Important—please note, depending on where you are staying in Dubai, it could take one hour to arrive at Expo City Dubai and an additional one hour to get to the "Innovation Arena." COP28 organizers strongly urge our session participants to leave their respective hotels around 8am on the morning of December 6th—thereby arriving to Expo City Dubai by 9am; and then allowing for another hour to reach our venue site (and passing through security check).

Once I arrive at Expo City Dubai, how do I proceed?

If arriving via the metro, upon exiting the metro, look for shuttle buses that—every 10-15 minutes—will take participants to various entrances around Expo City Dubai.

Grab a shuttle bus and plan to hop off the bus at the "**Opportunity Entrance**." You are highly advised to use this entrance—it will be the closest **allowable** entrance for us to reach our "Innovation Arena" venue site, the DP World Pavilion—"Impact Hub."

(Note: as you view the provided map in this guide, please see that while the AI Forsan entrance is closer to our event venue, we will not be allowed to use this entrance. It is not a publicly accessible entry point. Go to the **Opportunity Entrance**).

If arriving via a taxi or other ride-sharing service, make sure to tell your driver to take you to the **Opportunity Entrance of Expo City Dubai**. We do not have access to a more precise address at this point.

I have arrived at the event, where do I check in?

When you arrive at the **Opportunity Entrance** you will need to show your December 6th daily QR code and an official government-issued ID. You will proceed through a security checkpoint.

From the **Opportunity Entrance** security checkpoint, you will have a 10-minute, well-signed walk to reach the DP World Pavilion—"Impact Hub."

Upon arriving at the DP World Pavilion—"Impact Hub", head toward the back of the building for the main entrance we will use. You will find in the lobby a registration desk for our Council on Competitiveness + GFCC "Innovation Arena"—you will need to provide your name to the registration desk team—and they will grant you access to the elevator that will take you to the "Majilis Room" on the 5th floor (our event space).

If I am interested in attending more COP28 events, what can I do?

Our “Innovation Arena”—and hundreds of other events—will take place in what is known as the Green Zone in Expo City Dubai (the civil society, non-UN / political zone). And while access to the Green Zone is widely available, one MUST register online for each and every day one wishes to access the Green Zone in Expo City Dubai. The DAILY QR CODES will be absolutely necessary and required to enter the COP28 Green Zone each day.

Do I need to come prepared with a PowerPoint or a speech?

There are no PowerPoints or speeches allowed.

English is not my first language—will there be translation services available?

All sessions will be in English. Translation services will not be available.

Is there an arranged lunch for participants of the Council + GFCC “Innovation Arena?”

Our event runs from 10:00 a.m.–12:30 p.m. local time. While we will not have a lunch, we will have a substantial coffee and snack break. Beverages will be available throughout our session.

What is the dress code for the Innovation Arena?

Dress code is business attire.

“Innovation Arena”–Dialogue, Conversations, and Chats

As the agenda shows, the “Innovation Arena” will be a very tight, 2.5 hour event composed of a combination of panels and short discussion sessions.

In each part of the meeting, the overriding ethos is that of curated/moderated, short, solutions-oriented interventions. Each session is meant to be as interactive and dynamic as possible—offering each speaker time to engage. Moderators will catalyze a conversation that highlights key insights, observations, conclusions, actionable recommendations, and opportunities drawn from the speakers' experiences. The sessions will be conversational.

The moderator will introduce the session, invite speakers to discuss, manage the conversation flow and time, actively engage speakers in the dialogue, and wrap the conversation up at the end. The moderator will close the discussion at the appointed time.

No PowerPoints or prepared speeches will be allowed. In each session, speakers should come prepared to provide a 2-3 minute maximum intervention—again, themed around a solution or idea to advance their particular session's theme.

The Key Questions for the Day

- What one action, recommendation, or best practice are you advancing to promote greater innovation-based sustainability in your organization, your community, your nation, the world?
- What one action would you like to consider taking as you leave COP28—and how might that action engage others in the room?

Participant Roles

Moderator

- The moderator will introduce the session and guide the conversation, allowing time for responses and commentaries from other speakers.
- The moderator may also provide brief closing remarks, summarizing the overall themes of the discussion and/or providing relevant concluding insights at the end of the session.

Dialogue and Chat Participants

- Speakers may not use a PowerPoint or other presentation.
- We are not seeking formal speeches—given the short time for each session in the “Innovation Arena”, please be cognizant of your time—keeping remarks in the 2-3 minute range. In this way, no participant is short-changed on time and engagement.
- Again, refer to the key questions of the day on p. 10 of this briefing document to help you frame your intervention.
- We realize the timing is very tight—and thank you in advance for your cooperation and willingness to engage in this concentrated event.
- The goals of the sessions are to have intimate, high-quality, dynamic conversations. Again, dialogue and chat participants are asked to keep their remarks in the 2-minute range.
- Dialogue and chat participants will not need to provide descriptive self-introductions, as biographies are provided in this event guide, and as moderators will introduce speakers.

Agenda

as of November 30, 2023

MORNING

10:00 Setting the Stage for the Innovation Arena—Welcome & Vision from Session Chair

The Hon. Deborah L. Wince-Smith

President & CEO, Council on Competitiveness
President, GFCC
USA

10:05 United States Objectives for COP28

Mr. Jeffrey Marootian

Principal Deputy Assistant Secretary and Acting Assistant Secretary, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy (USA)

10:10 A Leadership Dialogue: Amplifying the Role of Universities and Research Laboratories in the Innovation and Sustainability Ecosystem—and Connecting with Others

Moderator

The Hon. Deborah L. Wince-Smith

President & CEO, Council on Competitiveness
President, GFCC
USA

Discussants

Dr. Steven Ashby

Director, Pacific Northwest National Laboratory
National Commissioner, Council on Competitiveness
USA

Ms. Joan Gabel

Chancellor, University of Pittsburgh
Vice Chair and National Commissioner, Council on Competitiveness
USA

Dr. Jefferson Gomes

Innovation Director, CNI—National Confederation of Industry
Brazil

Dr. Ray O. Johnson

CEO, Technology Innovation Institute and Aspire
Board of Trustees Member, Global Federation of Competitiveness Councils
UAE

Dr. Nkem Khumbah

Head of STI Policy Systems, Governance and Partnerships, Africa Academy of Sciences
Kenya

Dr. Maurie McInnis

President, Stony Brook University
USA

10:40 Competitiveness, Innovation & Sustainability—over Coffee

A chance to network and connect—and discuss:
“What is the one innovation opportunity you see to advance sustainability?”

11:00 Insight Sharing

Co-Moderators

Dr. Roberto Alvarez

Executive Director, GFCC
Brazil

Mr. Chad Evans

Executive Vice-President, Council on Competitiveness
Board Treasurer, GFCC
USA

Discussants

Dr. Mark Esposito

Senior Fellow, GFCC
USA/Switzerland

Mr. Andrew Rzepa

Executive Director, Public Sector EMA; Global Head of UN Partnerships; Partner, Gallup
UK

Sustainability & Innovation Interjections— A Series of Quick-Chats on Key Sustainability and Innovation Action Areas

11:20 Chat 1: Developing and Deploying Tech at Speed and Scale—Connecting Energy, Food, Water, and Health,

Moderator

Dr. Kandeh Yumkella

Presidential High Commissioner, Feed Sierra Leone
Former Director-General, United Nations Industrial
Development Organization
Sierra Leone

Discussants

Dr. Andrea Azevedo

Director, JBS Fund for the Amazon
Brazil

Dr. Paul Kearns

Director, Argonne National Laboratory
National Commissioner, Council on Competitiveness
USA

Dr. Mehmood Khan

CEO, Hevolution
Chair Emeritus and National Commissioner, Council
on Competitiveness
Kingdom of Saudi Arabia

Dr. Peter Schlosser

Vice President and Vice Provost, Global Futures, Arizona
State University
USA

11:40 Chat 2: Building a Robust, Resilient, Balanced Clean Energy Innovation Ecosystem

Moderator

Mr. Chad Evans

Executive Vice-President, Council on Competitiveness
Board Treasurer, GFCC
USA

Discussants

Dr. Martin Keller

Director, National Renewable Energy Laboratory
National Commissioner, Council on Competitiveness
USA

Dr. Darryll Pines

President, University of Maryland, and National
Commissioner
USA

Ms. Natalie Unterstell

Chair of the Accreditation Panel, Green Climate Fund
President, Talanoa Institute
Brazil

Dr. John Wagner

Director, Idaho National Laboratory
National Commissioner, Council on Competitiveness
USA

Dr. Abdul Hamid Zakri

Joint Chairman (Government), Malaysian Industry-
Government Group for High-Technology—MIGHT
Founding Chair, Intergovernmental Panel on Biodiversity
and Ecosystem
Distinguished Fellow, GFCC
Malaysia

AFTERNOON

12:00 Chat 3: Financing and Building Sustainability Innovation at Speed and Scale to Make an Impact on the World

Moderator

Dr. Roberto Alvarez

Executive Director, GFCC
Brazil

Amb. Roberto Azevedo

Founding Partner, YvY Capital
President, International Initiative for the Brazilian
Agribusiness
Former Director-General, World Trade Organization
USA

Dr. Hippolyte Fofack

Research Associate, Harvard University Center
for African Studies
Former Chief Economist, Africa Export-Import Bank
USA

Ms. Deborah Gordon

Senior Advisor, Longview Fusion Energy Systems
USA

Dr. Takehito Higuchi

Deputy Director of the JST Paris Office, Japan Science and
Technology Agency
Japan

12:20 Wrap-Up & Next Steps toward Impact

Arena discussion, summary of findings and next steps.

Speaker Bios

Dr. Roberto Alvarez

Executive Director
GFCC
USA



Roberto Alvarez is a systems-thinker and doer who boasts 25+ years of experience at the crossroads of technology, business, and policy, fostering global collaborations. Currently, he serves as the Executive Director at the Global Federation of Competitiveness Councils (GFCC)

and a Senior Policy Fellow at Queen Mary University London's Global Policy Institute (GPI). His GFCC role involves spearheading multi-stakeholder initiatives, engaging with top leaders, catalyzing new partnerships at a global scale, and co-creating a variety of knowledge and analytics products, including the GFCC Competitiveness Decoder. Roberto is an active early-stage tech investor, leading AVentures and investing in Brazilian deep-tech startups, being a Venture Partner at the NY-based Seldor Capital—one of the first space-tech VCs worldwide helping in the transformation of state-of-the-art technologies into high impact businesses—and helping to set up an investment pool and advising Bossa Nova Investments on Industry 4.0. His background includes senior management at the Brazilian Agency for Industrial Development (ABDI), business consultancy (manufacturing and logistics), tech entrepreneurship, higher education, and civil society. He is the author and/or organizer of books and other publications on innovation, industrial development and manufacturing strategy and operations. Holding a Ph.D. in Industrial Engineering from COPPE-UFRJ, Roberto was trained in Quality and Productivity at the Japan Productivity Center, and Exponential Technologies at the NASA AMES-based Singularity University. He is a certified coach in exponential organizations.

Dr. Steven Ashby

Director, Pacific Northwest National Laboratory
National Commissioner, Council on Competitiveness
USA



Dr. Steven Ashby is Director of the Department of Energy's Pacific Northwest National Laboratory, where he sets PNNL's strategic direction and oversees its \$1.4 billion R&D budget. Under his leadership, PNNL's nearly 6,000 talented staff members draw on signature capabilities in chemistry,

Earth sciences, biology, and data science to advance scientific discovery, enable energy sustainability, and enhance national security.

Dr. Ashby previously served as PNNL's Deputy Director for Science and Technology, where he led institutional strategic planning, stewarded the Laboratory's discretionary research portfolio, and oversaw technology commercialization, government relations, and research integrity.

Prior to joining PNNL in 2008, Dr. Ashby spent nearly 21 years at Lawrence Livermore National Laboratory (LLNL), where he oversaw the Computing Applications and Research Department and ultimately served as Deputy Principal Associate Director for Science and Technology. Dr. Ashby was the founding director of LLNL's Center for Applied Scientific Computing, which was established in 1996 and has since matured into one of the world's premier scientific computing research organizations.

As a widely recognized leader in computational science, Dr. Ashby has worked to advance the discipline throughout his career. His research focused on computational mathematics and scalable numerical algorithms; he is considered an expert in polynomial iterative methods and adaptive preconditioning techniques for large sparse linear systems. He remains active in the computational science community.

Dr. Ashby is a Fellow of the Society for Industrial and Applied Mathematics and the American Association for the Advancement of Science; member of the Washington State Academy of Sciences; Commissioner for the U.S. Council on Competitiveness; and serves on advisory committees for local and state organizations, including the Washington Roundtable.

He earned his M.S. and Ph.D. in Computer Science from the University of Illinois at Urbana-Champaign.

Dr. Andréa Azevedo

Director, JBS Fund for the Amazon
Brazil



Dr. Andréa Azevedo has created and coordinated several projects in most states of the Brazilian Amazon for the last 15 years, publishing more than 30 technical and scientific studies, with article highlights in Science and PNAS journals. She has broad experience in the analysis of public environmental

policies regarding deforestation, working with multi-stakeholder groups alongside the private sector. Currently, she is Executive Director of the JBS Fund for the Amazon, that supports sócio-environmental projects in the region. Dr. Azevedo has a degree in Biological Sciences, a Master's Degree in Economics, as well as a PhD in Sustainable Development from the University of Brasília (UnB), in addition to an Executive MBA degree. She is a board member of both the Conservation International in Brazil and the Amazon Concertation.

Amb. Roberto Azevedo

Founding Partner, YVY Capital
President, International Initiative for the Brazilian Agribusiness
Former Director-General, World Trade Organization
USA



Roberto Azevedo is a founding partner at YVY Capital, an asset management company focused on investments that facilitate the Brazilian and global transition to the green economy. He is engaged in other activities in the private sector leveraging his expertise on trade, public policy, negotiations,

corporate, and geopolitical issues. He regularly offers consulting and advisory services to industries and companies with a global focus.

Azevedo retired from PepsiCo in August 2023. He was PepsiCo's global Chief Corporate Affairs Officer overseeing Public Policy, External Relations and Communications, while also working closely with the sustainability team. He also chaired the Board of Directors of the PepsiCo Foundation.

Before joining PepsiCo, Azevedo was Director General of the World Trade Organization (WTO), a position he held for seven years, since 2013. During his tenure, the WTO expanded its membership with the inclusion of half a dozen new members and delivered its first multilateral agreements after 18 years of existence. These include the Trade Facilitation Agreement and the expansion of the Information Technology Agreement. He also led negotiations that abolished agricultural export subsidies, strengthened food security regulations, and provided greater access to global markets for products and services from less developed countries. Under his stewardship, new and creative platforms launched conversations on e-commerce, services regulations and investment facilitation—negotiations on the latter have been successfully concluded in July 2023.

Prior to his election as DG, Azevedo was the Brazilian Ambassador to the WTO. He was Brazil's chief negotiator in trade talks and chief litigator in trade disputes. He both chaired and served as adjudicator on WTO panels. He held several leadership posts in the Brazilian Foreign Ministry including as Undersecretary for Economic Affairs, Head of the Economic Department and Director of the Dispute Settlement Office.

Azevedo graduated from the University of Brasília with a degree on Electrical Engineering. He also has a degree from Instituto Rio Branco, the Brazilian graduate school on diplomacy. He lives in Greenwich, CT, with his wife. They have two daughters and six granddaughters.

Dr. Mark Esposito

Senior Fellow, GFCC
USA/Switzerland



Dr. Mark Esposito is a socio-economic strategist and bestselling author, researching the Fourth Industrial Revolution and Global Shifts. He works at the interface between Business, Technology and Government and co-founded Nexus FrontierTech, an Artificial Intelligence company and the Circular Economy Alliance, an EdTech company.

He has worked as Professor of Business and Economics at Hult International Business School since 2012 and currently serves as Clinical Professor at Arizona State University's Thunderbird Global School of Management where he oversees the 4IR Initiative.

Since 2011 he has been equally a faculty member at Harvard University's Division of Continuing Education. He served as Institutes Council Co-Leader, at the Microeconomics of Competitiveness program (MOC) at the Institute of Strategy and Competitiveness, at Harvard Business School under the mentorship of Professor Michael E. Porter and he is Fellow at a number of Competitiveness Institutes around the world.

He is an advisor to the Prime Minister Office in the UAE and a Policy Fellow at UCL's Institute for Innovation and Public Purpose. He is a Senior Advisor to the Ideation Center of Strategy& at PwC in Dubai and a Distinguished Fellow in the UNESCO Chair in Future Literacy of Finance. He has authored/co-authored over 150 publications, 11 books, among which 2 Amazon bestsellers: *Understanding how the Future Unfolds* (2017) and *The AI Republic* (2019).

His next books are: "The Emerging Economies under the Dome of the Fourth Industrial Revolution" with Dr. Amit Kapoor, to be published by Cambridge University Press in June 2022 and "The Great Remobilization: Designing A Smarter World" with Dr. Olaf Groth and Dr. Terence Tse, to be published in early 2023 by MIT University Press.

He holds a Doctoral Degree in Business and Economics from Ecole des Ponts Paris Tech, one of France's most prestigious Grande Ecole.

Mr. Chad Evans

Executive Vice-President, Council on Competitiveness
Board Treasurer, GFCC
USA



As Council EVP overseeing all programs and initiatives, Chad develops and manages the Council's policy agenda and workstream, including: development of the Council's flagship "National Commission on Innovation & Competitiveness Frontiers;" creating both the "Building University-Industry-Lab Dialogue for Advanced Computing" effort and the "Exploring Innovation Frontiers Initiative" with the National Science Foundation; forming the "American Energy & Manufacturing Competitiveness Partnership" with the U.S. Department of Energy; and, helping to shape and launch the "National Engineering Forum."

In addition, Chad has built and shepherded over the past decade the Council's "Technology Leadership and Strategy Initiative," engaging Fortune 500 chief technology officers, university vice presidents of research, and national laboratory deputy directors to make the policy and business cases for America's innovation-enabling investments in talent, technology and infrastructure.

He has also helmed C-suite innovation summits, dialogues and immersions across Latin America, Europe, Asia and Oceania. Has focused, in particular in Brazil and Australia—having created four U.S.-Brazil Innovation Summits and 20+ innovation learning laboratories across both nations; and having launched the first-ever U.S.-Australia CTO Dialogue series.

Chad holds an M.S. from the Georgetown University School of Foreign Service, with an Honors concentration in International Business Diplomacy from Georgetown's Landegger Program. He has a B.A. in Political Science and International Affairs from Emory University.

He is Secretary to the Board of the Council on Competitiveness; Treasurer to the Board of the Global Federation of Competitiveness Councils; a member of the Texas A&M Engineering Experiment Station Advisory Board; an ARCS Foundation National Science and Engineering Advisory Council member; a U.S. German Marshall Fund Fellow; and a past member of the Lawrence Livermore National Laboratory Industry Advisory Council and the World Economic Forum Advisory Board on Russian Competitiveness.

Dr. Hippolyte Fofack

Research Associate, Harvard University Center
for African Studies
Former Chief Economist, Africa Export-Import Bank
USA



Dr Hippolyte Fofack is a leading development and financial economist with more than 20 years of experience in leadership and management, development economics, banking and international finance, and academia. He has served in several capacities, including most recently as chief economist and

director of research and international cooperation at the African Export-Import Bank (Afreximbank). Previously, he was with the World Bank Group in Washington DC where he worked in operations and research, including as economist for Great Lakes countries in Africa and head of the Macroeconomics and Growth Program.

Dr Fofack's tenure at Afreximbank has coincided with a major shift to deepen economic integration under the African Continental Free Trade Agreement (AfCFTA). Through ground-breaking research and effective engagement with institutions as well as leaders and policymakers at national, continental and global levels, Dr Fofack made significant contributions towards the establishment of the AfCFTA which has been touted as a game-changer because it has the potential to transform African economies and accelerate the diversification of sources of growth to enhance integration of the region into the global economy.

Dr. Fofack's tenure at Afreximbank has also overlapped with the Covid-19 crisis which set Africa on the path towards its first recession in more than a quarter of a century and highlighted one of the gravest challenges facing the region on its development path—the high costs of perception premiums. Through ground-breaking work on the [high costs of perception premiums](#) that has been prominently featured by the [Brookings Institution](#) and [Project Syndicate](#), Dr Fofack has shed light on the determinants of the overinflated risks perennially assigned to Africa, as well as outlined policy options to set countries across the region but more broadly in the developing world on the path towards fiscal and debt sustainability. The work has generated a lot of interest both in policy arena and academia and is shaping the global debate on financing development and ongoing efforts to reform the global financial system.

In addition to promoting inclusive growth and structural transformation in emerging and developing economies through policy dialogue and research during his time at the World Bank, Dr Fofack worked closely with development partners—both bilateral and multilateral to develop a framework to establish a grant-based Multilateral Donors Trust Fund (MDTF) to clear arrears of low-income countries and service their debt to multilateral institutions during the interim period leading to their access to relief under the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative. The clearance of arrears paved the way for debt-distressed countries to reengage with the international community in a long-term partnership for sustainable development. The framework has been used widely by other development finance institutions.

Dr Fofack contributed to the development of the Integrated Macroeconomic Model for Poverty Analysis (IMMPA), a quantitative dynamic framework for analysing the impact of policy and exogenous shocks on income distribution, employment, and poverty in low- and middle-income countries. This framework has been used extensively for ex-ante analysis and policy formulation by the World Bank and countries in Africa and Latin America.

Dr Fofack led the conception and design of the Nelson Mandela Institution for Knowledge Building and the Advancement of Science and Technology in Africa, a ground-breaking initiative to enhance the development of Africa through the promotion of **excellence in science, engineering, and their applications**. This initiative was officially launched in January 2005 and led to the establishment of the first African Institute of Science and Technology (AIST) in Arusha, Tanzania.

Dr Fofack is a fellow of the African Academy of Sciences and a member of the American Economic Association and the African Finance and Economic Association. Dr Fofack has published extensively and served as guest editor of the *World Bank Economic Review*, *Economic History of Developing Regions*, and *Journal of African Trade*. He is editor-in-chief of *Contemporary Issues in African Trade* and *Trade Finance* and serves on the editorial boards of the *Journal of African Development*, the *Journal of African Trade*, and the *Gulf Economics Journal*.

Dr Fofack has taught and given lectures at several universities and research institutions, including American University and most recently at Harvard University where he delivered the inaugural Africa Lecture organized by Harvard Kennedy School's Africa Policy Journal and Harvard's Africa Center and Business and Government. He holds a master's degree in economics from the University of Lille, an advanced degree (DEA) in international economics and finance from the University of Bordeaux, and a Ph.D. from American University in Washington DC.

In addition to his research and regular columns on global affairs published by academic journals and Project Syndicate, respectively, he has also been a regular contributor to many newspapers and magazines, including African Banker,

African Business, Al Jazeera, CGTN, CNBC, Euronews, Financial Times, The Banker, Guardian, Japan Times, Korea Times, Le Monde, Taipei Times, and Newsweek. Through these regular columns, he continues to help shape the global policy debate.

Ms. Joan Gabel

Chancellor, University of Pittsburgh
Vice Chair and National Commissioner, Council on Competitiveness
USA



Joan Gabel became the 19th chancellor of the University of Pittsburgh on July 17, 2023. In this role, she oversees a community of nearly 34,000 students and more than 14,000 faculty and staff members across five distinct campuses, all working to advance Pitt's legacy of academic excellence, community service and research innovation.

She previously served as the president and chief executive of the University of Minnesota System and Twin Cities campus. Under her leadership, the University of Minnesota developed its first comprehensive systemwide strategic plan. That plan resulted in record-setting graduation rates and annual research expenditures, as well as unmatched start-ups, patents and private giving, including the completion of a \$4 billion capital campaign that exceeded its goal by 10%. Transformational partnerships, such as the NXT GEN MED program between the university, Mayo Clinic and Google, have led to reimagined research and student opportunities.

Prior to joining the University of Minnesota System, she served as executive vice president for academic affairs and provost at the University of South Carolina and as dean of the Robert J. Trulaske, Sr. College of Business at the University of Missouri. Gabel began her teaching career at Georgia State University, then joined Florida State University where she was the DeSantis Professor of Legal Studies; chair of the Department of Risk Management and Insurance, Real Estate and Legal Studies; and director of international relations within the College of Business.

Gabel is the recipient of numerous research, service and teaching awards, including recognition as a Fulbright scholar. She currently serves as vice chair for the Council on Competitiveness and on the boards of the American Council on Education, the Association of Public and Land Grant Universities, and Fulbright (CIES), among others. She holds a bachelor's degree in philosophy from Haverford College and a Juris Doctor from the University of Georgia School of Law.

Dr. Jefferson Gomes

Innovation Director, CNI—National Confederation of Industry Brazil



Director of Innovation of the National Confederation of Industries (CNI)—Brazil. Ph.D. in Mechanical Engineering, graduated and postgraduate at the Federal University of Santa Catarina (UFSC), in cooperation with RWTH-Aachen—Germany. Professor at the Technological Institute of Aeronautics

(ITA), Fraunhofer Project Center FPC@ITA Director. He was the Director, Superintendent, and Executive Manager for Innovation and Technology at SENAI-ND and Regional Director and Innovation Director at SENAI—Regional Department of Santa Catarina (DR-SC). He was the CEO of the Technological Research Institute (IPT). He is the principal researcher at the IASmin Platform—FAPESP, one of Brazil's six Centers for Innovation in Artificial Intelligence, and the Technical Coordinator of Line 4 of the Rota 2030.

Ms. Deborah Gordon

Senior Advisor, Longview Fusion Energy Systems USA



Deborah C. Gordon is a Senior Advisor for Longview Fusion Energy Systems, Inc. and several other high technology companies providing advising on bridging the gap in communications among scientific, industrial and government institutions. Ms. Gordon is an Affiliate at the Center for International Security

and Cooperation at Stanford University and served for 22 years as the Executive Director of the Stanford-Harvard Preventive Defense Project, co-directed by DoD Secretaries William Perry and Ashton Carter. In this role, Ms. Gordon participated in the highest level interactions with political and military leaders around the world. Her expertise is in promoting highly informed, non-governmental dialogues, known as track-two diplomacy, to provide opportunities for international innovation, agreement and cooperation. The Preventive Defense team devised creative and innovative policy approaches to U.S. defense policy and communicated them directly to high-level government officials. Ms. Gordon serves on the Boards of Directors of the Council on Strategic Risks, the Arms Control Association, and Probability Management, and is the founder and director (emerita) for Technology for Global Security. Ms. Gordon is the former Mayor of Woodside, CA; the Chair and Director of the City/County Association of Governments of San Mateo County; and Chair for many California State policy advisory bodies including energy and water policy. Ms. Gordon has over 40 years of experience in algorithm design, signal processing, network design, and network security and holds several U.S. and Canadian patents.

Dr. Takehito Higuchi

Deputy Director of the JST Paris Office, Japan Science and Technology Agency Japan



He was appointed as Deputy Director of the JST Paris office on October 1, 2020. Since then, he has been serving as the contact point for Europe and Africa for JST and for the Japanese science and technology community.

After he joined JST in 2014, he belonged to thinktank CRDS, and surveyed science and technology trends in India, China, Italy, the U.S. and more, and published a book and reports.

In 2017 he moved to the Department of International Affairs, and mainly served as the person in charge of the Call for Proposals "German Japanese Academia-Industry International Collaboration Program on Optics and Photonics".

In 2019 he served as the person in charge of the Joint workshop with FAPESP in the field of biotechnology held in São Paulo in 2019.

He holds a doctor's degree in management of technology from the Tokyo Institute of Technology.

Dr. Ray O. Johnson

CEO, Technology Innovation Institute and Aspire Board of Trustees Member, Global Federation of Competitiveness Councils UAE



Dr. Ray O. Johnson is the Chief Executive Officer of the Technology Innovation Institute (TII), the applied research pillar of Abu Dhabi's Advanced Technology Research Council (ATRC). He is also the Chief Executive Officer of ASPIRE, the business development and program management arm of ATRC.

Under his leadership, TII has grown to become one of the world's leading research institutes pushing the frontiers of knowledge, attracting the best global talent, and pioneering R&D breakthroughs across new technologies. His collaborative approach has delivered game-changing partnerships with governments, research institutes, universities, and industry partners around the world, which help drive solutions to some of society's most pressing challenges.

In the past year, Dr. Johnson's tenure has seen key milestone announcements including the launch of the MENA region's first electromagnetic compatibility laboratories for high-energy laser and microwave testing as well as the region's first impact lab to test and manufacture advanced materials and composites under extreme conditions. Further achievements include the development of NOOR, the world's largest Arabic natural language processing (NLP) model to date; building

the UAE's first national and sovereign cryptography libraries; developing variations of a post-quantum cryptography library; the construction of a state-of-the-art directed energy facility that offers advanced pre-qualification testing in the UAE; and starting work on building the first quantum computer in the Arab world.

TII now employs 800+ team members spanning 74 nationalities, of which 185 are UAE Nationals. Together, Dr. Johnson's team has made a significant scientific contribution with more than 700 publications and 25+ patents.

Dr. Johnson brings to TII decades of experience in global technology leadership, making strategic investments in disruptive technologies and developing business strategies that resulted in several new billion-dollar lines of business. He has collaborated with leaders in the highest echelons of government, industry, and academia, and he is frequently sought after as a speaker at global forums on business, strategy, innovation, and education.

Before joining TII, he was an Operating Partner at Bessemer Venture Partners, a top-tier American venture capital company. Prior to this, he was Corporate Senior Vice President and Chief Technology Officer of the Lockheed Martin Corporation, in Maryland, USA, where he was responsible for the corporation's operational performance and the associated board-reportable metrics. He led Engineering and Technology, Production Operations, Global Supply Chain, Program Management, and Logistics and Sustainment, while managing more than 72,000 people working on over 4,000 programs. He also led the Advanced Technology Laboratory in Cherry Hill, New Jersey, a profit and loss (P&L) center focused on generation-after-next technologies, and the Center for Innovation, that conducts collaborative experimentation and analysis.

Dr. Ray O. Johnson holds Ph.D. and M.S. degrees in Electrical Engineering from the Air Force Institute of Technology in Ohio, USA. He is a Full Academician of the International Academy of Astronautics, and a Fellow of the International Society for Optical Engineering (SPIE), the Institute of Electrical and Electronics Engineers (IEEE), and the American Institute of Aeronautics and Astronautics (AIAA).

Dr. Paul Kearns

Director, Argonne National Laboratory
National Commissioner, Council on Competitiveness
USA



Paul K. Kearns has served as Director of the U.S. Department of Energy (DOE) Argonne National Laboratory since 2017. Argonne is a growing multidisciplinary science and engineering research center with a \$1.2 billion diversified research portfolio and more than 3,300 employees, 8,000 facility

users, and 800 visiting researchers. Kearns has set the laboratory's strategic vision to deliver pivotal discoveries, pioneering leadership, and powerful scientific tools and facilities.

He has strengthened sponsor relationships and fostered a welcoming and inclusive culture valuing diversity, innovation and collaboration, and laboratory impact.

A biologist and accomplished steward of diverse scientific resources, Kearns has managed complex research and development enterprises for over 30 years, enabling them to achieve ambitious goals in energy, environment, and national security. As Argonne laboratory director, Kearns oversees multiple projects critical to Argonne's mission of accelerating science and technology to drive U.S. prosperity and security. Upgrading the Advanced Photon Source and launching the first exascale computer in the U.S. at the Argonne Leadership Computing Facility are critical to maintain U.S. leadership in science and technology. Argonne's leadership of the Joint Center for Energy Storage Research reflects the laboratory's long history of battery science expertise and collaboration.

As Argonne chief operations officer from 2010 to 2017, Kearns directed over 900 staff providing mission support services in financial management, human resources, safety performance, business systems, technology commercialization, and facilities management. Kearns also guided the establishment of an independent energy storage start-up and directed construction of cutting-edge research laboratories.

Kearns was an executive with Battelle Global Laboratory Operations for five years prior to joining Argonne. Kearns helped establish a groundbreaking program to deploy micro-grids and support cyber security technologies for the U.S. military. He worked with the University of Manchester, the United Kingdom's National Nuclear Laboratory, and the United Kingdom Technical Strategy Board to define a research and development investment strategy in nuclear energy. As President and Managing Director of Battelle-Italia, Kearns implemented an integrated business plan for Battelle Memorial Institute subsidiary working with the government of Italy and industry to address energy, security and environmental challenges.

Kearns' stewardship of DOE resources includes accomplished tenures with the Idaho National Engineering and Environmental Laboratory (INEEL) and Pacific Northwest National Laboratory (PNNL) between 1995 and 2005. He helped develop technical and contracting strategies for high-level radioactive waste processing by the Hanford Tank Waste Remediation System and managed an award-winning PNNL staff conducting R&D activities for public and private sector clients in chemical, thermal, electrochemical, and radiochemical processing. At INEEL, Kearns oversaw the laboratory's program in energy, environment, and national security, including the Advanced Test Reactor and Specific Manufacturing Capability Tank Armor Production Facility.

Kearns is a fellow of the American Association for the Advancement of Science. He serves on the Executive Committee of the DOE National Laboratory Directors' Council and the U.S. Council on Competitiveness' National Commission on Innovation and Competitiveness Frontiers.

He was also recently named Director of the Year by the Federal Laboratory Consortium and was appointed chair of the National Lab Directors' Council.

Kearns has a doctorate and a master's degree in bionucleonics and bachelor's degree in natural resources and environmental sciences, all from Purdue University. He and his wife, Lynn Kearns, have three children and four grandchildren.

Dr. Martin Keller

Director, National Renewable Energy Laboratory
National Commissioner, Council on Competitiveness
USA



Martin Keller has served as director of NREL and president of the Alliance for Sustainable Energy—the company that operates NREL for the U.S. Department of Energy—since 2015.

Under his leadership, the number of full-time employees at NREL has increased by more than 32%. Keller is

a visionary leader who is committed to people, teams, and partnerships. He innovatively and pragmatically applies private sector best practices at NREL to achieve game-changing scientific outcomes.

Working collaboratively with his leadership team, he developed a strategy for NREL focused on three key initiatives: integrated energy pathways, circular economy, and electrons to molecules. This strategy drives advanced scientific research, programs, projects, and partnerships at NREL. For example, NREL's partnership portfolio—which includes Eaton Corp., Wells Fargo, Hewlett Packard Enterprise, the New York State Energy Research and Development Authority, and more than 900 private and public sector organizations—has generated over \$1 billion of research and development for the laboratory.

From 2006 to 2015, Keller led energy, biological, and environmental research programs at Oak Ridge National Laboratory. His efforts culminated in his being promoted to serve as the associate laboratory director for the Energy and Environmental Sciences Directorate during his last 6 years there.

Earlier in his career, Keller's dedicated work in a variety of research management positions at Diversa Corp. enhanced and developed the microbiology expertise of this biotech company.

Currently, he is a fellow of the American Association for the Advancement of Science and recently retired as chair of its Industrial Science and Technology Section. In addition, Keller is a member of the Scientific Advisory Council for Julich Forschungszentrum and serves on numerous scientific advisory boards.

Keller received his doctorate in microbiology from the University of Regensburg, Germany.

Dr. Mehmood Khan

CEO, Hevolution
Chair Emeritus and National Commissioner, Council on Competitiveness
Kingdom of Saudi Arabia



Dr. Mehmood Khan's distinguished career has included several senior corporate roles, including Vice Chairman and Chief Scientific Officer of Global Research and Development at PepsiCo, and President of Global R&D at Takeda Pharmaceuticals.

Before moving into the private sector Dr. Khan was a faculty member in endocrinology at the Mayo Clinic and Medical School, where he served as Director of the Diabetes, Endocrine and Nutritional Trials Unit. He also led programs in diabetes, endocrinology, metabolism, and nutrition in Minneapolis.

Dr. Khan is a member of the Board of Directors of Reckitt Benckiser and of the Saudi Research, Development, and Innovation Authority (RDIA), Executive Chairman of Life Biosciences, a member of the Saudi National Biotechnology Strategy Steering Committee, and Chairman of the Visiting Committee on Advanced Technology of the United States' National Institute of Standards and Technology (NIST).

Dr. Khan earned his medical degree from the University of Liverpool School of Medicine, England, and completed a fellowship in clinical endocrinology and nutrition in the Department of Medicine and Food Science and Nutrition at the University of Minnesota, Minneapolis. He is a Fellow of the Royal College of Physicians in London, a Fellow of the American College of Endocrinology, and an Elected Fellow in the Department of Pharmacology at University of Oxford.

Dr. Nkem Khumbah

Head of STI Policy Systems, Governance and Partnerships
African Academy of Science
Senior Fellow, GFCC
Kenya



Dr. Nkem Khumbah joined the African Academy of Science as Head of STI Policy Systems, Governance and Partnerships (STI-PGA), effective September 2023. He is also a Senior Fellow with the Washington-based Global Federation of Competitiveness Councils (theGFCC.org), faculty affiliate with

the Science, Technology and Public Policy Program (STPP) at the University of Michigan, and Chairman of the Africa Development Futures Group. He previously was Lecturer of Mathematics and member of the STEM-Africa Initiative at the University of Michigan; Assistant Professor of Mathematics at North Georgia College and State University; and held research Fellowships at Institute for Pure and Applied Mathematics at UCLA and the Mathematical Science Research Institute at UC Berkeley.

He has worked extensively with the breath of African Science, Technology and Higher Education bodies, including serving in 2015 as Founding Executive Curator of the Next Einstein Forum (NEF): Africa's Global Forum for Science, Policy and Society.

His articles have appeared in journals like the New York Times and the African Policy Review; he is frequent speaker at conferences and symposia in North America, Africa, Asia, and South America.

Mr. Jeffrey Marootian

Principal Deputy Assistant Secretary and Acting Assistant Secretary, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy
USA



Jeff Marootian is the Principal Deputy Assistant Secretary in the Office of Energy Efficiency and Renewable Energy. He previously served as a Senior Advisor to Energy Secretary Jennifer Granholm and as Special Assistant to the President in the Biden-Harris White House. He was

also a member of the Biden-Harris Presidential Transition Team.

Prior to joining the Biden-Harris Administration, Jeff was the Director of the District Department of Transportation, where he led the adoption of sustainable transportation technologies and oversaw more than \$4 billion of critical infrastructure and utility projects including the reconstruction of the historic Frederick Douglass Memorial Bridge.

Mr. Marootian previously served in the Obama-Biden Administration as the Assistant Secretary for Administration and Chief Sustainability Officer at the U.S. Department of Transportation. He is an alumnus of The George Washington University where he has also taught as an adjunct faculty member in the Trachtenberg School of Public Policy and Administration.

Dr. Maurie McInnis

President, Stony Brook University
USA



Maurie McInnis is the sixth president of Stony Brook University, an internationally recognized public research institution and center of academic excellence designated as a flagship university and ranked as the number one public university in New York State. Appointed in July 2020, President McInnis also

oversees Stony Brook Medicine, Long Island's premier academic medical center. She is a key player in furthering economic development on Long Island and in Stony Brook's role as part of the management team of nearby Brookhaven National Laboratory, a U.S. Department of Energy facility.

President McInnis serves as the inaugural board chair of the New York Climate Exchange that was selected in April 2023 to build an international climate solutions center on Governors Island. This historic partnership brings together universities, researchers, non-profits, community leaders, entrepreneurs and businesses to develop equitable climate solutions for New York City that can be scaled and applied globally. Under President McInnis' leadership, Stony Brook University received a transformational \$500 million gift from the Simons Foundation—the largest-ever unrestricted endowment gift made to a U.S. institution of higher education.

President McInnis continues to advance opportunities to recruit accomplished faculty to improve teaching and learning, conduct groundbreaking research, provide the best clinical care for patients, and boost students' socioeconomic mobility.

In addition to leadership service as a member of The Yale Corporation (the board of trustees), President McInnis serves as chair of the Association of Public and Land-Grant Universities' Commission on Economic and Community Engagement. She chairs the Brookhaven Science Associates and serves on the boards of the Long Island Association and Accelerate Long Island.

A renowned cultural historian and author, President McInnis' academic scholarship has focused on race, slavery, and power in the 19th century American South. She brings to Stony Brook her humanist values, among them her conviction that institutes of higher learning should use their expertise and influence to address major societal problems. Before coming to Stony Brook, she served four years as executive vice president and provost at the University of Texas at Austin and spent nearly 20 years at the University of Virginia in various academic and administrative appointments. In addition to her bachelor's degree with highest distinction from the University of Virginia, she earned master's and PhD degrees at Yale University.

Dr. Darryll Pines

President, University of Maryland, and National Commissioner
USA



Darryll J. Pines serves as president of the University of Maryland as well as the Glenn L. Martin Professor of Aerospace Engineering.

Formerly the Nariman Farvardin Professor of Engineering and dean of UMD's A. James Clark School of Engineering, where he has been on the faculty since

1995, Pines amassed a record of academic leadership and research accomplishments that have dramatically elevated the school's rankings and stature nationally and internationally. In 2019, he was elected to the National Academy of Engineering for his "inspirational leadership and contributions to engineering education."

As dean for 11 years, Pines instituted sweeping changes to improve the student experience, including revamping teaching in fundamental undergraduate courses; encouraging participation in national and international student competitions; emphasizing sustainability engineering and service learning; and expanding innovation and entrepreneurship activities.

Students have consistently taken top honors in the U.S. Department of Energy's Solar Decathlon, placed fifth in Elon Musk's global Hyperloop pod design competition and hold the world record for human-powered flight duration. Among other out-of-the-classroom opportunities, the Clark School's [Engineers Without Borders chapter](#) is considered one of the nation's best. The school also launched Startup Shell, the first student-run business incubator on a university campus in the United States, and its students helped create two major hackathons, Bitcamp and Technica, the first all-female and non-binary hackathon on a university campus.

As a result of investments in targeted recruitment, advising, STEM outreach and its signature [Keystone Engineering Education Program](#), the Clark School's one-year undergraduate retention rate stands at 91% and its five-year graduation rate at 75%, which rank in the top 10 among public flagship universities in the United States.

Pines also made diversity a hallmark of his tenure as dean. As a co-principal investigator, the university became a [National Science Foundation \(NSF\) ADVANCE grant](#) recipient to further develop a culture of inclusive excellence, focused on improving work environments, retention and advancement of tenured and tenure-track women faculty in ways that improve the culture for all faculty. At the engineering faculty level, the number of tenured/tenure-track women faculty more than doubled from 18 to 37, and the number of under-represented minority faculty increased from 11 to 19. At the undergraduate student level, the number of enrolled women undergraduates rose from 18% to 26.5%, and the number of enrolled underrepresented minority undergraduate students grew from 9.5% to 16%. According to [Diverse Issues in Higher Education](#), the Clark School ranks among the top 10 in conferring the most B.S., M.S. and Ph.D. degrees to African-American students.

Pines has testified before Congress about the importance of K-12 STEM education for all students, and led an initiative to pilot a first-of-its-kind, nationwide, pre-college course on engineering principles and design. The program, [Engineering For US All \(E4USA\)](#), was made possible through a \$4 million NSF grant. In addition, Pines in 2015 served as chair of the National Academy of Engineering [Frontiers in Engineering Education](#) Symposium.

The Clark School is also a research powerhouse, with more than \$137 million in annual expenditures in eight departments and six institutes, more than 130 laboratories and 23 research centers. Under Pines' leadership, the college established five interdisciplinary research centers and

institutes: the Maryland Energy Innovation Institute, Robert E. Fischell Institute for Biomedical Devices, Maryland Transportation Institute, Quantum Technology Center (jointly with the Department of Physics) and Maryland Robotics Center. Research accomplishments ranged from revolutionary, safer energy storage techniques to the development of futuristic materials and quantum technologies.

The Clark School led the university in fundraising while Pines was dean, raising \$240 million of the achieved \$1 billion goal of the Great Expectations campaign ending in 2013. Among the results was [A. James Clark Hall](#) now a hub on campus and across the state for bioengineering. In the current Fearless Ideas campaign, Pines and his leadership team secured a \$219.5 million investment—which in 2017 was the sixth-largest gift ever to a public university—from the A. James & Alice B. Clark Foundation. The [Building Together: An Investment for Maryland](#) gift is funding need-based scholarships campuswide, as well as graduate fellowships, faculty positions, infrastructure and other initiatives. One signature element of this investment is support for the [Emilio Fernandez IDEA Factory](#), an innovative facility to encourage transformative ideas that have a positive impact on people and society.

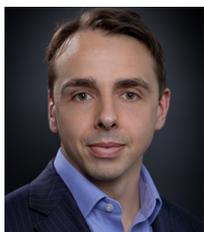
Prior to his promotion to dean, Pines led the Department of Aerospace Engineering for four years, taking a leave of absence from the University of Maryland from 2003 to 2006 to serve as a program manager for the Tactical Technology Office and Defense Sciences Office at the Defense Advanced Research Projects Agency (DARPA). He also held positions at the Lawrence Livermore National Laboratory (LLNL), Chevron Corp. and Space Tethers. At LLNL, Pines worked on the Ballistic Missile Defense Organization's Clementine spacecraft program, which discovered water near the south pole of the moon. A replica of the spacecraft now sits in the National Air and Space Museum.

Pines' research focuses on structural dynamics, including structural health monitoring and prognosis, smart sensors, and adaptive, morphing and biologically inspired structures as well as the guidance, navigation and control of aerospace vehicles. He holds seven co-authored patents with his students and collaborators.

In recognition of his contributions to the field, Pines was named a fellow of the American Institute of Aeronautics and Astronautics, American Society of Mechanical Engineers and Institute of Physics. He chairs the Engineering Advisory Committee for NSF's Engineering Directorate and sits on the Board of Trustees for Underwriters Laboratory not-for-profit arm. Pines received a B.S. in mechanical engineering from the University of California, Berkeley. He earned M.S. and Ph.D. degrees in mechanical engineering from the Massachusetts Institute of Technology.

Mr. Andrew Rzepa

Executive Director, Public Sector EMA
Global Head of UN Partnerships
Partner, Gallup
UK



As a Partner at Gallup, Andrew leads the Public Sector division across Europe, the Middle East and Africa and Gallup's UN engagements globally. He has over a decade of experience in designing and delivering large-scale projects with policy impact, partnering with governments, foundations,

businesses, and UN entities to address data gaps to enable evidence-based decision making.

Andrew is passionate about advancing the UN Sustainable Development Goals (SDGs) and empowering people and nations to improve their well-being. He spearheaded Gallup's collaborations with the Food and Agriculture Organization of the UN on a new measure of food insecurity (later adopted as an SDG indicator) and has initiated numerous projects and partnerships to develop innovative metrics and novel approaches to monitor human progress across the world. Previous work includes measures of diet quality, water insecurity, risk, trust in science and vaccines.

He serves as an adviser to a number of groups, including the U.K.'s What Works Centre for Wellbeing. He is also a senior (non-resident) associate with the Washington D.C.-based Center for Strategic and International Studies.

Dr. Peter Schlosser

Vice President and Vice Provost, Global Futures, Arizona State University
USA



Peter Schlosser is the Vice President and Vice Provost of Global Futures, the University Global Futures Professor and leads the Julie Ann Wrigley Global Futures Laboratory at Arizona State University. He holds joint appointments in the School of Sustainability, the School of Earth and Space Exploration,

and the School of Sustainable Engineering and the Built Environment.

Prior to joining ASU in January 2018, Dr. Schlosser spent twenty-eight years at Columbia University, where he was the Maurice Ewing and J. Lamar Worzel Professor of Geophysics and Chair of the Department of Earth and Environmental Engineering, Professor of Earth and Environmental Sciences, and the deputy director and director of research at the Earth Institute. He also was a member and the founding chair of the Earth Institute faculty and a member of the senior staff at the Lamont-Doherty Earth Observatory. Before joining Columbia University, he was an Assistant Professor in the Physics Department of the University of Heidelberg.

Schlosser's research focuses on the hydrosphere, primarily the circulation of water in the oceans and groundwater including studies of problems caused by human impact. He is Co-Chair of the Earth League, Chair of the Steering Group of the International Study of Arctic Change, and member of the Boards of the Sustaining Arctic Observing Network and The Sustainability Consortium. He is a member of the German National Academy of Science, and Fellow of the American Geophysical Union, the American Association for the Advancement of Science, and the Explorers Club. He has served on numerous national and international science steering and advisory committees.

Ms. Natalie Unterstell

Chair of the Accreditation Panel, Green Climate Fund
President, Talanoa Institute
Brazil



Natalie Unterstell is on a mission to build a net-zero and deforestation-free world. She is the President of Talanoa think tank in Brazil and also serves as an appointed member to the Green Climate Fund's Accreditation Panel. Having lived and worked in the Amazon rainforest, she has worked in

government, private sector, and civil society roles. Natalie has served as the Head of Sustainable Development for the Brazilian Presidency, Head of Climate Change and Forests at the Brazilian Ministry of the Environment, and as a climate and forests negotiator at the United Nations Framework Convention on Climate Change.

She is the founder of multiple think tanks and policy advocacy groups focused on climate leadership, and she serves as advisor to various initiatives. Natalie has a Masters in Public Administration from Harvard University, and a Bachelor in Business Administration from Fundacao Getulio Vargas (FGV).

Dr. John Wagner

Director, Idaho National Laboratory
National Commissioner, Council on Competitiveness
USA



Dr. John C. Wagner is the director of Idaho National Laboratory and president of Battelle Energy Alliance, LLC. He is responsible for management and integration of a large, multipurpose laboratory whose mission focuses on nuclear energy, national and homeland security, and energy and environment

science and technology. He manages this U.S. Department of Energy (DOE) national laboratory of approximately 5,400 scientists, engineers and support staff in multiple nuclear and nonnuclear experimental facilities, with an annual budget of nearly \$1.6 billion.

Wagner began serving as INL director on Dec. 11, 2020. He has more than 20 years of experience performing research, and managing and leading research and development projects, programs and organizations. He has been at INL since 2016 and served as associate laboratory director for Nuclear Science and Technology (NS&T) since 2017. His previous roles included director of Domestic Programs in NS&T and director of the Technical Integration Office for the DOE-NE Light Water Reactor Sustainability Program at INL. Wagner initially joined INL as the chief scientist at the Materials and Fuels Complex in 2016.

Wagner received a B.S. in nuclear engineering from the Missouri University of Science and Technology in 1992, and M.S. and Ph.D. degrees from the Pennsylvania State University in 1994 and 1997, respectively. Following graduate school, Wagner joined Holtec International as a principal engineer, performing criticality safety analyses and licensing activities for spent fuel storage pools and storage and transportation casks. Wagner joined Oak Ridge National Laboratory (ORNL) as an R&D staff member in 1999, performing research in the areas of hybrid (Monte Carlo/deterministic) radiation transport methods, burnup credit criticality safety, and spent nuclear fuel characterization and safety.

While at ORNL, Wagner held various technical leadership positions, including technical lead for postclosure criticality in support of DOE OCRWM's Lead Laboratory for Repository Systems, Radiation Transport Methods Deputy Focus Area lead for the Consortium for Advanced Simulation of Light Water Reactors (CASL), and national technical director of the DOE Office of Nuclear Energy's Nuclear Fuels Storage and Transportation Planning Project. Wagner held various management positions, including group leader for the Criticality and Shielding Methods and Applications, Radiation Transport, and Used Fuel Systems groups.

In 2014, Wagner became director of the Reactor and Nuclear Systems Division (RNSD), with responsibility for management direction and leadership to focus and integrate the seven RNSD R&D groups (Advanced Reactor Systems and Safety, Nuclear Data and Criticality Safety, Nuclear Security Modeling, Radiation Transport, Reactor Physics, Thermal Hydraulics and Irradiation Engineering, and Used Fuel Systems) and the Radiation Safety Information Computational Center.

Wagner is a Fellow of the American Nuclear Society and recipient of the 2013 E.O. Lawrence Award. He has authored or co-authored more than 170 refereed journal and conference articles, technical reports, and conference summaries. He was the original developer of the A3MCNP and ADVANTG codes and led the development of the CADIS and Forward-Weighted CADIS hybrid transport methods.

The Hon. Deborah L. Wince-Smith

President, GFCC

President & CEO, Council on Competitiveness



The Honorable Deborah L. Wince-Smith is the President & CEO of the Council on Competitiveness, a non-partisan leadership coalition of CEO's, University Presidents, Labor Union Leaders, and National Laboratory Directors, all committed to developing policy solutions and national initiatives to drive future productivity growth, prosperity for all Americans, and the global success of American business. She has more than 20 years of experience as a senior U.S. government official, as the first Senate-confirmed Assistant Secretary for Technology Policy in the U.S. Department of Commerce in the Administration of President George H.W. Bush, and as the Assistant Director for International Affairs in the White House Office of Science and Technology Policy in the Reagan Administration. She served as a Senate confirmed member of the Oversight Board of the Internal Revenue Service in the Administrations of President George W. Bush and President Barack H. Obama.

Ms. Wince-Smith is also the President and Founder of the Global Federation of Competitiveness Councils (GFCC). She previously served on the Smithsonian National Board, the Secretary of State's Committee on International Economic Policy, the U.S. Naval Academy Foundation, and the Board of Governors of Argonne National Laboratory. She served as Chairman of the World Economic Forum's Global Agenda Council on Competitiveness and as a Public Director of NASDAQ-OMX.

Ms. Wince-Smith currently serves on the Advisory Committee of the Export-Import Bank of the United States (EXIM) and UNICEF. She is also a Commissioner on the Commission on the Theft of American Intellectual Property, and as a member of the Council of Japan's Science and Technology in Society (STS) Forum. As an expert in technology commercialization, Ms. Wince-Smith serves on the Board of Directors of Aerolase, Inc. and Q-Net Security, Inc., and she serves as the Vice Chair of the Board of the American College of Greece.

Ms. Wince-Smith graduated magna cum laude and Phi Beta Kappa from Vassar College and earned a master's degree in Classical Archaeology from King's College, Cambridge University. She has received Honorary Doctorates from Michigan State University, the University of Toledo, the Queens University Belfast, Worcester Polytechnic Institute, and the University of South Carolina.

Dr. Kandeh Yumkella

Presidential High Commissioner, Feed
Sierra Leone
Former Director-General, United Nations Industrial
Development Organization
Sierra Leone



Hon. Dr. Kandeh Yumkella is a distinguished development economist and an expert in agricultural economics with over 30 years of experience. He is founder and CEO of The Energy Nexus Network (TENN), a regional ecosystem hub for sustainable energy solutions and serves as a Member of Parliament

in Sierra Leone. He is a member of the High-Level Group of the Africa-Europe Foundation and co-chair of the Africa Europe Foundation Strategy Group on Energy. A member of pre-eminent global organizations, he is the recipient of numerous internal awards. He also serves in various international advisory bodies, boards, and commissions.

Previously Dr. Yumkella served for two decades in the United Nations system including as Under-Secretary-General and Special Representative of the UN Secretary-General for Sustainable Energy for All and founding chief executive officer for the Sustainable Energy for All (SE4All) Initiative (2013–2015). He also served two four-year terms as Director-General of the UN Industrial Development Organization (UNIDO, 2005–2013). In both capacities, among other accomplishments, Dr. Yumkella mobilized global consensus for the United Nation's Sustainable Development Goals 7 and 9. These deal with ensuring access to affordable, reliable, sustainable, and modern energy for all, and building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation, respectively. He previously served as a member of the Pan-African Parliament.

Dr. Abdul Hamid Zakri

Joint Chairman (Government), Malaysian Industry-Government Group for High-Technology–MIGHT
Founding Chair, Intergovernmental Panel on Biodiversity and Ecosystem
Distinguished Fellow, GFCC
Malaysia



Zakri Abdul Hamid is a distinguished professor at UCSI University, Malaysia and currently holds the distinction of being the fifth holder of the Tun Hussein Onn Chair in International Studies at the Institute of Strategic and International Studies, Malaysia. He is chairman of Atri Advisory, a consulting company

advising governments and international organisations on sustainable development and is currently the Pro-Chancellor of two universities in Malaysia, namely Universiti Perguruan Sultan Idris in Tanjung Malim and Multimedia University in Cyberjaya. He is the joint-chairmen of the Malaysian Industry-Government Group for High Technology (MIGHT), chairman of the Business Council on Sustainable Development, Malaysia and chairman of the National Biodiversity Roundtable.

He was the Science Adviser to the Prime Minister of Malaysia and former Director of the Institute of Advanced Studies, United Nations University. He is the founding Chair of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and former member of the UN Secretary-General's Scientific Advisory Board. Zakri is one of the original negotiators of the UN Convention on Biological Diversity. He is an emeritus member of the Global Leadership Council of the UN Sustainable Development Solutions Network (SDSN); former member of the Islamic Development Bank (IDB) Scientific Advisory Board and presently a vice-chair of the governing council of the UN Technology Bank for Least Developed Countries. Recent appointments include ambassador and science advisor to the Campaign for Nature and founding fellow, International Science Council. Zakri is a senior fellow of the Academy of Sciences Malaysia.

Among the awards he received are: 2019 National Academic Laureate; 2019 UN Malaysia Award; 2018 Midori Biodiversity Prize; 2017 ASEAN Biodiversity Hero, and the 2015 Merdeka Award, and the 2014 Zayed International Prize for the Environment.

About the Council on Competitiveness

For more than three decades, the Council on Competitiveness (Council) has championed a competitiveness agenda for the United States to attract investment and talent, and spur the commercialization of new ideas.

While the players may have changed since its founding in 1986, the mission remains as vital as ever—to enhance U.S. productivity and raise the standard of living for all Americans.

The members of the Council—CEOs, university presidents, labor leaders and national lab directors—represent a powerful, nonpartisan voice that sets aside politics and seeks results. By providing real-world perspective to Washington policymakers, the Council's private sector network makes an impact on decision-making across a broad spectrum of issues—from the cutting-edge of science and technology, to the democratization of innovation, to the shift from energy weakness to strength that supports the growing renaissance in U.S. manufacturing.

The Council's leadership group firmly believes that with the right policies, the strengths and potential of the U.S. economy far outweigh the current challenges the nation faces on the path to higher growth and greater opportunity for all Americans.

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The GFCC is a global multi-stakeholder membership organization founded in 2010 with a footprint spanning more than 30 nations. The GFCC is committed to disseminating best practices to accelerate productivity, growth, and prosperity for countries, regions, and cities. We do that through high-level networking and events, in-depth conversations, analytical tools, advice, and education.

GFCC members include private sector councils on competitiveness and industry organizations, government agencies, global corporations, and leading research universities. All members pay membership dues yearly to secure their placement in the network. Currently, the GFCC hosts 44 members from 21 countries.

Besides its members, the GFCC network also includes experts invited to participate as fellows. Members and fellows have different roles. Fellows contribute by sharing their specialized knowledge and expertise with the community and participating in project development and strategies. Currently, the GFCC hosts 60 fellows from 24 countries.

Learn more about the GFCC at: www.thegfcc.org

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