

**FACT SHEET:**  
**UNITED STATES HOSTS FIRST EVER GLOBAL CLEAN ENERGY ACTION FORUM  
TO ACCELERATE CLEAN ENERGY INNOVATION AND DEPLOYMENT**

*Clean Energy Leaders from 34 Countries, Nearly 400 CEOs Participate in World Premier Event  
Showcasing Clean Energy Action That Will Drive Forward The Commercialization of New  
Technologies and Unleash The Global Transition to Net-Zero Emissions*

From September 21-23, 2022, U.S. Secretary of Energy Jennifer M. Granholm chaired the Global Clean Energy Action Forum (GCEAF) in Pittsburgh, Pennsylvania, convening thousands of clean energy leaders – government ministers, CEOs, innovators, civil society, young professionals – to build partnerships, launch initiatives, and share lessons to transition to clean energy. The event also convened the 13<sup>th</sup> Clean Energy Ministerial (CEM) and 7<sup>th</sup> Mission Innovation Ministerial (MI), two essential international platforms for collaboration on clean energy innovation and deployment.

For many countries, Russia’s unprovoked invasion of Ukraine and resulting global energy crisis has reinforced the vulnerabilities countries that rely on fossil fuels face. Clean energy transitions are thus a national security imperative that demands urgent, ambitious action. Attendees also highlighted the importance of energy access and affordability, essential to security for all humankind. Finally, attendees reflected on the tremendous opportunities for economic prosperity and good paying jobs created by the \$23 trillion clean energy economy.

The G20 Presidencies will host the next two Clean Energy Ministerial and Mission Innovation meetings – India will host CEM14/MI-8 in 2023, and Brazil will host CEM15/MI-9 in 2024.

**FLAGSHIP ANNOUNCEMENTS**

- **\$94BN for Clean Energy Technology Demonstrations:** Responding to President Biden’s challenge to mobilize \$90BN in public funding by 2026 for demonstrating clean energy technologies, 16 countries delivered \$94 billion to GCEAF exceeding and achieving this goal four years early. The IEA assessed this level of funding is needed to complete a portfolio of large-scale demonstration projects this decade to bring to market the technologies required to achieve net zero emissions by 2050. The United States is devoting \$21.9 billion to clean energy demonstrations. Governments contributing to the Challenge included: Australia, Canada, European Commission, Finland, France, Germany, Japan, the Netherlands, Norway, Poland, the Republic of Korea, Singapore, Sweden, United Arab Emirates and the United Kingdom.
- **Launch of the Zero-Emissions Government Fleet Declaration:** Launched by the United States under the CEM’s Electric Vehicle Initiative, signatory governments committed to 100% zero-emission light-duty vehicle acquisitions of their government owned and operated fleet – and announced aspirations towards 100% zero-emission

medium- and heavy-duty vehicle acquisitions – by no later than 2035. Australia, Canada, Germany, Israel, New Zealand, and Norway joined the declaration. [READ more.](#)

## U.S. ANNOUNCEMENTS

- **Department of Energy (DOE) Launches New Industrial Heat EarthShot:** The Industrial Heat Shot™ seeks to dramatically reduce the cost, energy use, and carbon emissions associated with the heat used to make our everyday products. The new initiative will develop cost-competitive industrial heat decarbonization technologies with at least 85% lower greenhouse gas emissions by 2035. [READ more.](#)
- **Launch of DOE’s Regional Clean Hydrogen Hubs (H2Hubs) Program:** DOE released the H2Hubs Funding Opportunity Announcement (FOA) to establish an \$8B program to develop at least four H2Hubs that demonstrate the production, processing, delivery, storage, and end-use of clean hydrogen. The H2Hubs are a key pillar of DOE’s draft National Clean Hydrogen Strategy and Roadmap released at GCEAF. [READ more.](#)
- **The U.S. Sustainable Aviation Fuels Grand Challenge Roadmap:** A collaborative effort between the U.S. Departments of Energy, Transportation, and Agriculture, the Grand Challenge is public-private effort to reduce cost, enhance sustainability, and expand production to achieve 3 billion gallons per year of domestic sustainable aviation fuel production. [READ more.](#)
- **Release of Nearly \$7 billion for Carbon Management Programs:** DOE announced nearly \$4.9 billion in funding to help drive the demonstration and deployment of carbon capture systems at America’s power plants and industrial facilities and \$2.1 billion to support loans, loan guarantees, and grants for shared carbon transport infrastructure. [READ more.](#)

## [CEM](#) AND [MI](#) ANNOUNCEMENTS

Two globally significant clean energy collaboration platforms announced several of new initiatives. For additional details, see the full [CEM Pittsburgh Action Pact](#) and the [MI Global Innovation Blueprint](#).

- **Launch of [CEM Action Fund](#):** Ministers agreed to establish a new [Action Fund](#) to help turn the CEM community's ambitions into a reality. The new fund will bring together funding from governments, philanthropies and the private sector to support the ambitious, impactful project areas covering clean energy spectrum.
- **Launch of [CEM Solar Manufacturing and Supply Chains Initiative](#):** CEM launched a new initiative to help ensure that solar industry supply chains are secure, resilient and sustainable. The initial coalition includes the governments of Australia, Germany, India and the United States, in partnership with the International Solar Alliance (ISA) and International Renewable Energy Agency (IRENA), plus leaders from the solar industry

such as the European Solar Manufacturers Association.

- **The MI [Green Powered Future Mission](#) Launches Sprint to Establish Five Large-scale Demonstrators:** The demonstrators are launched in five continents integrating up to 80% Variable Renewable Energy into existing electricity grids by 2024, supported by 20+ National Pilots. After 2024, the program will target integration of up to 100% renewable energy. The Mission also announced the development of a new multilateral research program to mobilize USD 100 million over the next three years to tackle 20 innovation priorities.
- **Launch of [RISE3](#):** The United States, Canada, Japan, and the United Kingdom announced a new Campaign to Research the Impacts on Social Equity and Economic Empowerment (RISE3) with support from NREL and Idaho National Lab. The campaign will feature research from TerraPraxis, Third Way, OECD-NEA, Fastest path to Zero Initiative, and the Good Energy Collective.
- **[MI Net-Zero Industries Mission](#) Targets Steel, Cement, and Chemicals to Decarbonize Energy-Intensive Industries by 2030:** Led by Austria and Australia, in collaboration with Canada, China, the European Commission, Finland, Germany, the Republic of Korea and the UK, the Mission announced its intent to deliver at least [50 large-scale demonstrations projects](#) to decarbonize energy-intensive industries such as steel, cement and chemicals by 2030 to facilitate the full decarbonization of industry in multiple regions of the world by 2050.
- **Announcement of [CEM Industrial Deep Decarbonisation Initiative \(IDDI\)](#) Pledge:** The CEM's Industry Deep-Decarbonisation initiative announced a new Green Public Procurement pledge. The four-tiered pledge aims to incentivize low-carbon production and use of steel, cement and concrete. Signatories agree to start (no later than 2030) requiring that materials used in all public construction projects are low-emission – and that “signature projects” use near-zero emission materials. The United States, UAE and Saudi Arabia joined Canada, India, Germany and United Kingdom on the Industrial Deep Decarbonisation Initiative.
- **[CEM Carbon Capture Utilization and Storage Initiative \(CCUS\)](#) Announced [Joint Action](#) for Low-Carbon Cement Production by 2030:** Fourteen countries - Norway, Saudi Arabia, UK, US, Australia, Japan, Canada, China, Netherlands, EC, UAE, South Africa, Nigeria, Mexico – and the Global Cement and Concrete Association announced their intent to collaborate to identify and operationalise ten large-scale CCUS projects for low-carbon cement production by 2030, bringing down heavy industry emissions and providing proof of concept for future GHG abatement installations.
- **[MI Carbon Dioxide Removal Mission](#) announces Multiple Projects to Remove 1,000+ Metric Tons of CO2 Per Year by 2025:** The CDR Mission released its [Innovation Roadmap](#), which summarizes the status of CDR technologies and highlights 12 innovation priorities for member governments. The CDR Mission announced the Carbon Dioxide Removal Launchpad, a global push for CDR pilot-scale tests and demonstrations projects.

The United States, Canada, Norway, the United Kingdom, Saudi Arabia, and Japan, committed to funding at least one CDR project that removes 1,000+ metric tons of CO<sub>2</sub>/year by 2025. Participating countries will also contribute to a collective goal of USD \$100 million for CDR pilots and demonstrations globally by 2025.

- **[MI Zero-Emission Shipping Mission](#) Launches Blueprint for Future Ports: [The Zero-Emission Shipping Mission Action Plan](#)** outlines 43 prioritized actions to reach the Mission's goal for commercially viable, zero-emission ocean-going vessels making up at least 5% of the global fleet by 2030. The Blueprint for Future Ports works to promote global public-private partnerships with an inclusive and holistic approach, accelerating progress towards the Mission goals of 10 large trade ports covering at least three continents supplying zero-emission fuel (ZEF).
- **[CEM Global Drive to Zero Campaign](#) Committed to 100% Zero-Emission Truck and Bus Sales by 2040:** Building on the momentum of the ZEV Government Fleet Declaration, 16 countries and 50+ companies commit to work together and enable 100% zero-emission truck and bus sales by 2040, with an interim goal of 30% by 2030 working under the CEM's Global Drive to Zero Campaign.
- **[MI Clean Hydrogen Mission](#) Announced a Commitment to Identify 100 Clean Hydrogen Valley Projects by 2024:** In addition, the Mission will launch a Hydrogen Valley Exchange, a new peer-learning network to accelerate the development of hydrogen valley projects. These projects will demonstrate innovative hydrogen value chains and build scale for different end-use sectors, driving down the cost of clean hydrogen. The first wave of countries that the Mission will work with will be announced at COP27.
- **[CEM Hydrogen Initiative:](#)** The International Energy Agency (IEA) published the [Global Hydrogen Review \(GHR\)](#), a flagship publication of the CEM Hydrogen Initiative. It identified that the pipeline of projects for low-emission hydrogen production keeps increasing with the possibility of about 24 million tonnes production by 2030 with the electrolyser manufacturing capacity growing over six-fold. The CEM Hydrogen Initiative will continue to build international collaboration on hydrogen trade and standards over the coming year.
- **[MI Integrated Biorefineries Mission](#) Announced Eight Collaboration Priorities:** The Mission launched a [roadmap](#) identifying gaps and challenges in current biorefining value chains. Based on innovation needs, Mission members identified eight collaborative actions to accelerate the research, development, and demonstration of sustainable, bio-based fuels, chemicals, and materials and advance enabling policy and regulatory environments.
- **[MI Urban Transitions Mission](#) Announced a Set of Tools to Help Cities Reach Net Zero:** The Mission launched an open call for cities to join the Urban Transitions Mission City cohort and global knowledge exchange centre to facilitate knowledge-exchange and capacity building. A first cohort of 50 cities will be identified by the end of 2022, while a second cohort of 250 cities will follow by 2024. The MICall 22 is announced 27 countries,

allocating more than Euro 60 million funding to tackle urban challenges. More information on how to apply [here](#).

## **AWARDS**

GCEAF Recognized clean energy leaders through the following awards:

- **CEM's ISGAN Recognizes Leadership and Innovation in Smart Grids with [Excellence Awards](#)**: STEDIN Netbeheer wins 2022 Award for Excellence for its work relating to the integration of electric vehicles into smart grids. The Award of Excellence for workforce deployment and an inclusive transition went to the India Smart Grid Forum.
- **[CEM 2022 Energy Management Leaders Awards](#) Recognizes Trail-blazers in Energy Efficiency**: These awards recognise organisations that have implemented energy management systems to achieve energy, economic, and sustainability gains. Three organisations, **Grupo Libertad** (Argentina), **PT. ISM Bogasari Flour Mills Tbk** (Indonesia) and **Tyndall National Institute** (Ireland) received the prestigious Award of Excellence in Energy Management, while 27 others from diverse geographic and economic backgrounds earned the distinguished Energy Management Insight Award.
- **CEM [Equality in Energy Transition Initiative](#) Recognizes those Going Above and Beyond to Reach Gender Equality in the Energy Sector by 2030**: The award recognizes those making a difference to the role of women in clean energy through three international Awards of Excellence. **Sam Craft**, NRG Solar and AWISE was awarded the Woman of Distinction Award; **Pooja Shah**, DNV Energy was awarded **the Emerging Leader in Renewable Energy**; **the Chilean Ministry of Energy** was awarded the Organisational Award.
- **CEM [Equalby30](#) Expands Signatories Committed to Gender Equity in the Energy Sector**: Chile answers call to join Equal by 30 initiative alongside 13 current members.
- **[CEM's Hydrogen TCP Awards](#)** is a new joint CEM-TCP award to recognize leading innovators, bringing technology from development to market. This year's theme is integrating electrolysis with wind, solar and / or nuclear energy. Congratulations to Zero Emission Haulage Solution (ZEHS) from South Africa's Anglo American Mogalakwena PGM mine as the first recipient.

## **NEW MEMBERS AND PARTNERSHIPS**

- **Spain joined as a new member of Mission Innovation** led by the Ministry of Science and Innovation. Spain also announced their membership of the Green Powered Future and Clean Hydrogen Missions.

[CEM](#) and [MI](#) announced new strategic partnerships to advance the global clean energy agenda:

- Together, CEM and MI will bring the Breakthrough Agenda under their joint stewardship to identify opportunities and progress towards tackling hard-to-abate sectors.

- CEM announced its partnerships with the World Energy Council, the Latin-American Energy Organization (OLADE), the International Solar Alliance (ISA); and Energy Foundation China.
- **Mission Innovation strengthened its collaborations** with the [International Energy Agency](#) (IEA), the International Renewable Energy Agency (IRENA) and announced a new collaboration with Mission Possible Partnership (MPP).
- **Mission Innovation Ministers endorsed a Track and Review Framework**, to track the delivery of commitments that will be delivered in partnership with the IEA, IRENA and the European Commission Joint Research Centre (JRC).

## **REPORTS**

[CEM](#) and [MI](#) released new studies and reports to identifying pathways to decarbonizing the energy sector:

- **Mission Innovation published blueprints** for the actions needed this decade to achieve tipping points in cost and scale by 2030 in sectors responsible for more than 52% of global greenhouse gas emissions. These blueprints address over 300 urgent innovation priorities for each of the seven MI Missions: Clean [Hydrogen](#), Zero-Emission [Shipping](#), Net-Zero Industries, Urban Transitions, Green Powered [Future](#), Integrated [Biorefineries](#) and [Carbon Dioxide Removal](#).
- **Mission Innovation publishes global reports on national energy innovation priorities and progress:** The MI Member Insights Report 2021-22 summarizes clean energy research, development and demonstration (RD&D) activity over the past year and the MI National Innovation Pathways Report summarizing priorities and plans for this decade. These reports provide a unique global overview of global innovation efforts.
- **New CEM Report Maps Out the Fastest Pathways to Decarbonize the Power Sector:** [New report](#) maps out the key lessons learned for rapid decarbonization of the power sector and will help direct the next phase of the CEM's power sector work to accelerate clean power deployment this decade.
- **CEM [Empowering People Initiative](#) (EPI) Launched Report on Skills for the Clean Energy Workforce of the Future:** The Skills Development for Clean Energy Transitions is a series of international case studies that illustrates the broad spectrum of barriers to be considered in the creation of successful employment policies for clean energy transitions. EPI additionally announced a new international work programme to deliver insights and collaborations that enable new clean energy employment opportunities.
- **New MI Report Identifies Global Hydrogen RD&D Collaboration Opportunities:** A [new report](#) published by CSIRO and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) for the Mission Innovation Clean Hydrogen Mission identifies RD&D opportunities of mutual interest, based on the complementarity of

strategies and research activities of different countries, and highlights key research organisations, helping to lay the foundation for new bilateral or multilateral research collaborations.

- **Bloomberg New Energy Finance Energy Transition Factbook:** The [report](#) is aimed at helping clean energy policymakers identify opportunities for investment that improve energy resilience, access, affordability and sustainability.
- **Clean Energy Cost of Capital Observatory:** The World Economic Forum, ZTH Zurich, and the International Energy Agency (IEA) have launched a new project to bring transparency to the cost of financing of new clean energy technologies, a critical factor in determining the cost and speed of clean energy transitions around the world.