This edition of the Clean Energy Ministerial (CEM) Brochure covers a period that has been disrupted by the global Covid pandemic (early-2020 to March-2021). In reviewing it, I will admit that I found myself filled with mixed emotions – pride for all that has been achieved; regret for all that might have been achieved under different circumstances.

While this report shows that the work of the CEM has not been immune from the impacts of the pandemic, it also shows that our members, our workstreams, and our community have continued to make important progress. I am deeply impressed, proud and grateful for the fact that our global clean energy community has achieved so much during such a challenging period.

Looking forward, clean energy transitions can help spur an economic recovery at a time when it is sorely needed. It is therefore encouraging to see that, despite the pandemic, impressive new clean energy commitments and actions have come forth from across our community, including net zero commitments. The CEM’s mission to accelerate clean energy transitions remains as vital as ever, and we must harness the power of international collaboration to help our community achieve their clean energy goals.

This year has the potential to mark a major step-change in the pace and scale of clean energy action. I hope that it does.

DAN DORNER
Head of Secretariat
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   • Clean Buildings
   • Clean Industry
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Minister Shri Raj Kumar Singh, India
“At COP21 we had a goal of 40% of energy from non-fossil sources. I am happy to inform that we are already at 38%. We believe that by 2030 at least 65% of capacity will come from non-fossil sources.”

Minister Arifin Tasrif, Indonesia
“Indonesia highly appreciates the long-standing cooperation with CEM members. The COVID19 outbreak adds momentum to promote cleaner fuels and energy efficiently.”

Minister Seamus O’Regan, Canada
“My call to action to everyone here today is to come together under the CEM umbrella to harness our combined expertise and financial resources so that we can rebuild our economies, continue to protect our planet, protect ourselves, and ensure that no one is left behind.”

Minister Kwasi Kwarteng, United Kingdom
“The CEM is going from strength to strength. We value its input in our joint work on the energy transition. Only by working together can we make a real impact for our economies and the future of the planet. Global cooperation holds the key. This is central to the COP26 that we are co-hosting next year. The CEM has a key role to play in fostering global cooperation.”

Vice Minister Baohua Liu, NEA, China
"China has been working very closely with the CEM. We have been leading initiatives like RGEI, and participating in 21CPP and others, which have produced positive results in advancing clean energy technologies."

Minister Anders Ygeman, Sweden
“Sweden is fully committed to the CEM’s mission to accelerate the clean energy transition. We call upon the Secretariat to intensify effort on renewable energy, Electrification of industry, and an inclusive energy sector.”

Minister Bento Albuquerque, Brazil
“We strongly support the new Biofuture Platform initiative and we are happy to have hosted its launch event last week. Sustainable bioenergy must be an integral part of the CEM agenda.”

Director-General Laurent Michel, France
“International collaboration plays a crucial role. That is why we are happy to participate in the CEM and MI. International cooperation can be key to boost development and strengthen initiatives to create momentum.”

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“International collaboration plays a crucial role. That is why we are happy to participate in the CEM and MI. International cooperation can be key to boost development and strengthen initiatives to create momentum.”

Francesco LaCamera, International Renewable Energy Agency
“IRENA has been the operating agent of the Long-Term Energy Scenario Campaign, working with the co-leads Denmark and Germany. We are leveraging our global membership to create a network of experts to tackle the challenges of the 1.5 pathway ahead of us.”
1. CLEAN ENERGY MINISTERIAL (CEM)
WHAT IS AT STAKE?
The world is undertaking the fastest and most far-reaching energy transition in history. Clean energy goals have been increasing around the world and many countries are now targeting net zero emissions explicitly. Three crucial clean energy shifts must be supercharged urgently:

• Scale: The pace of clean energy adoption this decade must far outpace the last, moving rapidly from niche- to mass- to massive-scale deployment across a wide range of technologies.

• Sectors: The power sector remains pivotal to clean energy transitions, but the focus will continue to shift from the power sector to every sector (and x-sector integration) and from energy ministries to every ministry.

• Society: A whole of society approach that looks beyond governments and companies to the role of consumers and citizens, and beyond just tackling technical challenges to also overcoming economic, social, and sustainability ones.

CEM’S MISSION
The CEM brings together a community of the world’s largest and leading countries, companies, and international experts to achieve one mission – accelerate clean energy transitions.

The CEM is an international clean energy leadership platform, a convening platform, an action platform, and an acceleration platform. It serves as:

• a platform where its members help shape the global clean energy agenda and advance the deployment of specific clean energy technologies and solutions.

• a voluntary, bottom-up, government-owned forum for exchanging knowledge and insights, building networks and partnership, and facilitating coordinated actions on clean energy.

• an implementation vehicle that helps its members to achieve specific domestic clean energy objectives.

HOW THE CEM WORKS?
The CEM builds global action coalitions to achieve clean energy goals and advance their transitions.

The CEM operates through 3 key pillars:

i. CEM Ministerial: An annual meeting of its ministers, partners, and community.

ii. CEM Work Programme: A combination of international campaigns and initiatives spanning the clean energy spectrum.

iii. CEM Secretariat: The Secretariat consists of a small, flexible team (hosted by the IEA) that serves the ministerial, all workstreams and all members.

Through its work, it delivers:

• Conversations with a purpose,

• Coordination for the benefit of all, and

• Collaboration to increase the realm of what is possible.
A powerful coalition of the world’s most influential actors in clean energy working together to accelerate clean energy transitions
GLOBAL LEADERSHIP
CEM Members drive the clean energy agenda – they account for around 90% of installed clean power generation capacity, 80% of global clean energy investments, and the vast majority of public R&D in clean energy technologies.

SINGLE MISSION
The CEM has a simple, single mission – to advance clean energy transitions – through international collaboration.

FLEXIBLE APPROACH
The CEM’s flexible approach allows members to form or join clean energy workstreams in line with their own priorities.

OPEN PLATFORM
The CEM is an open platform that is proud to have many leading international organisations, companies, think tanks, foundations, and others as active participants in its work programme.

ACTION COALITIONS
CEM activities are in a state of constant renewal, with action coalitions coming together to design and deliver new clean energy workstreams.

CEM COMMUNITY
Several of the world’s best international organisations play a key role in the work of the CEM. CEM therefore represents a powerful coalition of the world’s most influential actors in clean energy working together to accelerate clean energy transitions. The CEM also fully recognises the essential role of the private sector and welcomes company participation in its work. The private sector partners – chosen for their visionary work, innovative solutions, and ambitious approaches – are encouraged to provide high-level policy input as well as practical expertise and to participate directly in the technical work of the CEM.
CEM1 was hosted by the United States in 2010. CEM12 will be hosted virtually by Chile from 31 May – 6 June 2021.
• Launch **11 Initiatives** under **3 Themes**:
  • Global Energy Efficiency Challenge – Appliances, Buildings and Industry, Smart Grids, Electric Vehicles, and Capacity Building
  • Clean Energy Supply – Carbon Capture, Use and Storage, Solar and Wind, Hydropower, Bioenergy
  • Clean Energy Access – Off-Grid Appliances, Women in Energy

- **CEM1**
  **United States**
  - High-Level Public-Private Roundtables on solar PV, clean vehicle adoption, power systems in emerging economies, renewables policy and finance, energy management systems, and mini-grid development
  - Innovation showcase pavilion with over 40 industry booths
  - 1st SEAD Global Efficiency Medal Competition awarded for energy-efficient flat-panel televisions

- **CEM2**
  **UAE**
  - Publish CCUS Action Group Recommendations
  - Forum on women’s contribution to clean energy
  - High-Level Public-Private Roundtables on
    • Renewable Energy Scale-Up
    • Sustainable Cities
    • Technologies and Business Models for Energy Efficiency
    • Utility-Scale Energy Efficiency

- **CEM3**
  **United Kingdom**
  - 1st Global LEAP Appliance Awards
  - 1st ISGAN Award of Excellence
  - SEAD’s Global Efficiency Medal awarded for energy-efficient computer monitors
  - High-level dialogues on clean energy finance
  - Model CEM program with university students selected to represent member governments
  - Global LEAP hosted a “PlugFest” for off-grid appliance and energy systems

- **CEM4**
  **India**
  - 1st Global LEAP Appliance Awards
  - 1st ISGAN Award of Excellence
  - SEAD’s Global Efficiency Medal awarded for energy-efficient computer monitors
  - High-level dialogues on clean energy finance
  - Model CEM program with university students selected to represent member governments
  - Global LEAP hosted a “PlugFest” for off-grid appliance and energy systems

- **CEM5**
  **Korea**
  - Launch of the Solar and Wind Resource Atlas
  - Launch of UK’s £1 billion CCS Commercialisation Program supported in the CCUS Action Group
  - Launch collaboration with Sustainable Energy for All (SE4All)

- **CEM6**
  **Mexico**
  - Launch of the Global Lighting Challenge, the Power System Challenge, and evolution of the Clean Energy Solutions Center
  - SEAD Global Efficiency Medal on motors to Nanyang Explosion Protection Group
  - ISGAN Award of Excellence for “Grid4EU”
  - Launch of CEM 2.0 – the CEM’s 2nd phase
• Announces over $1.5 billion in commitments to accelerate clean energy deployment and access
• Launch Corporate Sourcing of Renewables, Energy Management Campaign, Advanced Cooling Challenge
• Keynote address from President Obama
• Public-Private Action Summit
• Startups and Technology Showcase with over 100 companies from 6 continents
• 1st C3E Symposium on Women in Clean Energy

Technology and Innovation theater showcases innovators, scientists, and entrepreneurs
• Launch:
  o Investment and Finance Initiative
  o Long-term Energy Scenarios Campaign
  o Equal by 30 Campaign
  o CCUS initiative
  o Power System Flexibility Campaign
  o Distributed Generation Campaign

Major Technology Exhibition and Innovation theater held
• Corporate Sourcing of Renewables Report
• Canadian G7 Presidency sees all countries sign up to CEM’s Equal by 30 Campaign
• Graduation of Global Lighting Challenge, which far surpassed 4B high efficiency, affordable lighting products with over 14B sold
• Launch of NICE Futures Initiative

Find out on 31 May 2021...

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The 11th Clean Energy Ministerial (CEM11), hosted by the Kingdom of Saudi Arabia, convened at a critical moment to consider the role of clean energy in supporting a rapid, sustainable recovery, and the role of the CEM community in shaping the next clean energy decade.

The theme of CEM11 was “Supporting the Recovery, Shaping the Future”. Its unofficial mantra was “bring actions not words”. The guiding principles for CEM11 were to have a positive and inclusive event that strengthened and showcased our community.

Co-located with the G20 Energy Ministerial for the first time, the CEM11 programme included 16 high-level pre-events and culminated with its Ministerial Plenary. CEM11 was all-virtual, all-live cast, and open to all viewers for the first time. It was also translated and re-broadcast for a Chinese audience for the first time. Such “firsts” provided a platform for all to demonstrate clean energy leadership to a global audience.

CEM11 hosted more ministers and clean energy leaders than ever before. Our global clean energy community continues to both grow and grow stronger.

The CEM11 Outcomes Report is available on our CEM Website.

All aspects of CEM11 were virtual, live webcast, and open to all for the first time. They are available to watch/download at www.youtube.com/channel/UCxJe7euEishjxJglPvgrCg/videos.
### CAMPAIGNS AND INITIATIVES

#### INITIATIVE

**SEeks To…**
Convene a coalition to collaborate on a work programme that helps accelerate clean energy deployment.

**FOCuses On…**
- **COALITION**: Building an international coalition of experts
- **COLLABORATION**: Designing and delivering a substantive work programme that seeks to accelerate clean energy deployment (such as by overcoming technical, economic, or social barriers to adoption)
- **CHANGE**: Timely delivery of work programme outputs that help change real-world outcomes
- **COMMUNICATION**: Communicating activities, outputs, and outcomes for the benefit of the CEM Community

**LED By…**
Member leads (typically 2 or 3), Initiative Coordinator, CEM Secretariat

**ENGAGES WITH…**
The right coalition to best serve the goals of a specific initiative, typically including policymakers, regulators, companies, trade bodies, international organisations, researchers/academics, financial institutions

**DURATION…**
Typically 3 years or more

**MEASURES SUCCESS BY…**
- Engagement/activity metrics (active coalition participation, etc.)
- Delivery metrics (delivery of work programme outputs to time, cost, quality)
- Output and outcome metrics (expert meetings, analytical reports, project collaborations, regulatory alignment/coherence, etc.)

#### CAMPAIGN

**SEeks To…**
Inspire global action towards a specific ambitious clean energy goal

**FOCuses On…**
- **COMMUNICATION**: Having an extensive and impactful communications strategy
- **COMMUNITY**: Engaging, persuading, and energising a community
- **COMMITMENTS**: Securing new commitments towards an ambitious goal

**LED By…**
Member leads, key stakeholder groups, Campaign Manager, CEM Secretariat

**ENGAGES WITH…**
A broad audience. Campaigns are inclusive by nature, seeking to grow a powerful community that can generate impactful commitments

**DURATION…**
Typically 1-2 years

**MEASURES SUCCESS BY…**
- Awareness metrics (events, viewers, participants, etc.)
- Engagement metrics (followers, subscribers, amplification, etc.)
- Impact metrics (signatories and commitments, etc.)
The Secretariat is a small, flexible team hosted by the International Energy Agency (IEA) on behalf of all CEM Members. Its key functions are:

- Coordinate the work of the CEM – Connect the strategic direction from Ministers, the Sherpas’ Group, and the Steering Committee to day-to-day activities in the Initiatives and Campaigns.
- Work with the hosts to deliver an annual Ministerial Meeting that delivers insight, inspiration, and impact.
- Support the development, direction, and review of CEM Initiatives and Campaigns.
- Respond proactively to the priorities of our Members. Build and sustain clean energy partnerships that support the delivery of the CEM’s mission.
- Management and delivery of all CEM governance Facilitate and support meetings of the CEM Steering Committee and sub-groups.
- Manage communications: (a) Internally, to and among CEM Members; and (b) Externally, including outreach to publicize progress and outcomes, and disseminate resources developed through the work of the CEM.
- Manage funding mechanisms established to underpin CEM activities.

To learn more about the work of the CEM go to www.cleanenergyministerial.org or email Secretariat@CEMSecretariat.org.
Minister Juan Carlos Jobet, Chile
“Chile is fully committed to CEM and its mission to accelerate clean energy transitions. We strongly believe that CEM has a central role to play to make sure that the international community works together.”

Minister Tina Bru, Norway
“Norway welcomes more cooperation between the initiatives in CEM and not least the increasing involvement of the private sector. The private sector plays a key role as we move towards the next, cleaner, energy decade.”

Minister Michal Kurtyka, Poland
"We are fully committed to the Clean Energy Ministerial and its mission to accelerate clean energy transitions. We are proud to participate in the Nuclear initiative for two years. Now, we are pleased to announce that we have joined the Electric Vehicles Initiative. But more importantly, we are preparing to join CEM as a member.”

Vice Minister Huang Wei, MOST, China
“My sincere thanks to the CEM secretariat for their outstanding support for China’s clean energy development over the past years. China has been working very closely with CEM. We have been leading initiatives such as RGEI and have been participating in 21CPP and other initiatives and campaigns, which have produced positive results in advancing clean energy technologies. China will continue to stick to the path of clean-carbon safe and efficient development, and strengthen collaboration under CEM and other multinational mechanisms.”

HRH Prince Abdulaziz bin Salman Al Saud, Kingdom of Saudi Arabia
“We are very encouraged to see the strong engagement from the Clean Energy Ministerial community and governments, with a record level of ministerial participation at the 11th Clean Energy Ministerial.”

Dr Fatih Birol, International Energy Agency
“This CEM meeting, with all the contributions from ministers, government, and the private sector, will help us raise ambitions. I believe the CEM can play a very important role in helping governments in this very difficult year.”

Dr Andrew Steer, World Resources Institute
“That is why we are so grateful to the CEM. It is a group of countries that are really committed to doing it better.”

Commissioner Kadri Simson, European Commission
"We are committed to the green transition. Europe does not exist in a cocoon and it cannot succeed alone. A global green energy system will be built by each of us working together. I very much appreciate what CEM is doing to help this process, and will continue to support you in the years to come."
2. CEM WORK PROGRAMME
OVERVIEW

NEW WORKSTREAMS IN DEVELOPMENT

Deep Decarbonisation in Industry (initial focus on steel); Empowering People (initial focus on skills), “High-ambition” EV Adoption, Bioenergy Campaign
### OVERVIEW

As of March 2021

- **21st CENTURY POWER PARTNERSHIP**
- **INTERNATIONAL SMART GRID ACTION NETWORK**
- **REGIONAL & GLOBAL ENERGY INTERCONNECTION**
- **NUCLEAR INNOVATION: CLEAN ENERGY FUTURE**
- **ELECTRIC VEHICLE**
- **SUPER-EFFICIENT EQUIPMENT & APPLIANCE DEPLOYMENT**
- **CARBON CAPTURE, UTILISATION AND STORAGE**
- **HYDROGEN**
- **BIOFUTURE PLATFORM**
- **CLEAN ENERGY EDUCATION & EMPOWERMENT**
- **CLEAN ENERGY SOLUTIONS CENTER**
- **CEM INVESTMENT AND FINANCE**
- **LONG-TERM ENERGY SCENARIOS**

#### CAMPAIGNS
- **POWER SYSTEM FLEXIBILITY**
- **FLEXIBLE NUCLEAR**
- **EV30@30**
- **DRIVE TO ZERO**
- **EQUAL BY 30 CAMPAIGN**

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<th>Initiatives</th>
<th>Australia</th>
<th>Brazil</th>
<th>Canada</th>
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# 21ST CENTURY POWER PARTNERSHIP

**Objective**
Advance power system transformation by facilitating collaborative research, information-sharing, and capacity-building among power system practitioners. Promote integrated policy, regulatory, financial, and technical solutions for the deployment of clean energy in combination with large-scale energy efficiency and smart grid deployment.

**Lead Governments**
- Argentina, China, Denmark, Finland, Mexico, Norway, South Africa, Sweden

**Coordinator**
US National Renewable Energy Laboratory

**Participants**

**Partners**
- US National Renewable Energy Laboratory
- CSIR (South Africa)
- Danish Energy Agency
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ GmbH)
- Edison Electric Institute
- ENERGINET
- International Energy Agency (IEA)
- International Renewable Energy Agency (IRENA)
- Regulatory Assistance Project
- The Nature Conservancy
- USAID
- World Bank (WB)
- World Resources Institute (WRI)

**Recent Achievements**
- Two-day virtual Workshop on [CEM’s Horizontal Accelerator](#) for Power System Integration of Electric Vehicles.
- Podcast Series on ‘[Global Energy Dialogues: Solutions to Integrate Large Shares of Variable Renewable Energy](#)’.
- CEM11 Event on ‘[A Holistic Approach to Low Emission Energy Systems through System Integration](#)’.
- Webinar on ‘[Coronavirus and Global Energy: Shared lessons learned from how COVID-19 has impacted global jobs, fuel demand, and GHG emissions](#)’.
- Technical exchange between Brazil’s [Empresa de Pesquisa Energética (EPE)](#) and NREL.

**Website**
- [www.21stcenturypower.org/](http://www.21stcenturypower.org/)
**Objective**

Build momentum among industry and governments to enhance power system flexibility through the coordinated deployment of advanced power plants, grids, demand-side response, and storage. Aim to (i) deepen understanding of available flexibility resources (ii) harness digitalization for flexibility and resilience in the power system (iii) highlight policy options for cost-effective flexibility deployment (iv) showcase innovative and scalable approaches.

**Lead Governments**

China, Canada, Chile, European Commission, Finland, Italy, Japan, South Africa, United Kingdom

**Coordinator**

International Energy Agency (IEA)

**Participants**

Brazil, Canada, Chile, European Commission, Finland, Italy, Japan, South Africa, United Kingdom

**Partners**

National Renewable Energy Laboratory (NREL), International Renewable Energy Agency (IRENA), International Smart Grid Action Network (ISGAN)

**Recent Achievements**

- **Technical expertise** to Chile on [Chile’s Strategy on National Power System Flexibility](#)
- **Knowledge Exchange** between Sweden, Chile, and Japan on [Market Design and Regulatory Frameworks for Increasing Demand Side Flexibility](#).
- **Event:** [Hydrogen and the role of synthetic fuels in power system flexibility](#) at the Berlin Energy Transitions Dialogue.
- **Webinar:** [Strategies for Digitalisation of Electricity Systems](#) joint with the IEA’s Digital Demand-Driven Electricity Networks (3DEN) Initiative.
- **Workshops:** Tariff Design and Data Collection Methodologies with Latin American members to discuss.
- **CEM11 Event** on ‘[A Holistic Approach to Low Emission Energy Systems through System Integration](#)’ (together with 21CPP).

**Website**

[www.cleanenergyministerial.org/campaign-clean-energy-ministerial/power-system-flexibility](http://www.cleanenergyministerial.org/campaign-clean-energy-ministerial/power-system-flexibility)
## Objective
Foster new collaborations and assist policymakers in considering the roles that nuclear energy could play in their clean energy future. Understand available technology options, provide information on technical feasibility, economics, and financing, and share perspectives from those involved.

### Lead Governments

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### Coordinator
Joint Institute for Strategic Energy Analysis (JISEA), National Renewable Energy Laboratory (NREL)

### Participants
Argentina, France, Jordan, Kenya, Poland, Poland, Romania (Puerto Rico), Russia, Saudi Arabia, United Arab Emirates

### Partners

### Recent Achievements
- **New member**: France joins NICE Future Initiative.
- **Webinar series**:
  - Country Spotlight: Russia – Shaping the Clean Energy Future
  - Clean Nuclear Energy for Industry: The Case for SMRs and Micro-reactors in Puerto Rico
  - The Roles of Nuclear Energy during COVID-19 and Beyond
  - Nuclear Energy in Clean Energy Planning in Latin America’ (in Spanish/Portuguese)
  - Microreactors in the Near Horizon: Innovative Solutions for Clean Energy Systems
- **Sponsored** [Inform and Inspire the Next Generation series](https://www.nice-future.org) with the American Nuclear Society (ANS) and International Youth Nuclear Congress (IYNC)

### Website
[www.nice-future.org](http://www.nice-future.org)
### Objective

To provide an understanding of the economic benefits of advanced nuclear technologies to a wide spectrum of participating countries, including the qualitative and quantitative benefits of nuclear reactors with highly flexible power output.

### Lead Governments

Coordinator

US National Renewable Energy Laboratory

### Participants

Argentina, France, Jordan, Kenya, Poland, Poland, Romania (Puerto Rico), Russia, Saudi Arabia, United Arab Emirates

### Partners


### Recent Achievements

- **Signatories:** 15+ international partner organizations and 6 member governments *(as of Mar 2020).*
- **Report:** *Flexible Nuclear Energy for Clean Energy Systems.*
- **Events:**
  - *CEM11: Flexibility in Clean Energy Systems – the Enabling Roles of Nuclear Energy*
  - *Flexible Nuclear Analysis and its Connection to Future Policy*
  - *Finding Common Ground between Variable and non-variable Generation*
  - Experts Meeting to discuss policy briefings, technical reports, and a new website portal

### Website

## Objective
Accelerate the global deployment of electric vehicles worldwide through analytical reports, policy recommendations, technical workshops and study tours, multilateral dialogues and technical assistance to regions or member countries.

### Lead Governments
International Energy Agency (IEA)

### Coordinator
![IEA Logo](https://example.com/iea_logo.png)

### Participants
Chile, Finland, France, Germany, Ghana, Greece, India, Japan, the Netherlands, New Zealand, Norway, Poland, Portugal, Sweden, United Kingdom

### Partners

### Recent Achievements
- **Collaboration** with [GEF-7 Global Programme on Electro-Mobility](https://example.com/gef7_programme).
- **Webinar** on “Off-street charging for plug-in electric vehicles in Nordic cities” with contributions from Public Housing Sweden, Copenhagen Electric and the City of Stockholm.

### Website
[www.iea.org/topics/transport/evi/](https://www.iea.org/topics/transport/evi/)
**Objective**

*Raise ambition, build awareness, and garner commitments on electric vehicle deployment from member countries and public and private participants.* Member countries pledge to increase their share of EVs to 30% by 2030, thereby promoting innovation, economic and industrial development, energy security, and reduction of local air pollution.

**Lead Governments**

International Energy Agency (IEA)

**Coordinator**

IEA

**Participants**

Chile, Finland, France, Germany, India, Japan, the Netherlands, Norway, Sweden, United Kingdom

**Recent Achievements**

- **Signatories:** 13 member countries and 23 companies/organisations *(as of Jan 2021).*
- Presentation of EV30@30 at *2nd World New Energy Vehicles Congress* (WNEVC).
- **Webinars:**
  - *Industrial Application and Practice under the Development of NEV*
  - *Big Data Integration, Research on the Integrated Development of EVs and Renewable Energy*
  - *Global EVI - Pilot City Program (PCP)* with IEA and Shanghai International Automobile City (SIAC). **EVI-PCP** aims to build a network of 100+ cities in 5-years that jointly promote electric mobility *(since 2018)*
- Discussions to increase the ambition levels of the EV30@30 campaign.

**Website**

- [www.iea.org/topics/transport/evi/](http://www.iea.org/topics/transport/evi/)
Objective

Promote greater deployment of zero- or near-zero emission levels for commercial, medium and heavy-duty vehicles (MHDVs) – including mass global transit – and bring together governments and leading stakeholders to work collaboratively on requirements, policies, and programs that support the electrification of commercial vehicles.

Lead Governments

Coordinator

CALSTART

Participants

Chile, Finland, Germany, Japan, the Netherlands, Norway, Sweden

Recent Achievements

• 100+ Signatories, including companies such as DHL, Scania, Volta Trucks (as of Mar 2021).
• Welcoming of 8 new member states (China, Chile, Finland, Germany, Japan, Netherlands, Norway, and Sweden) (2020).
• Launch of new Sales by 2050: Global Push to reach 100 percent new zero-emission truck and bus (with an interim target of 30% sales by 2030), with potentially more ambitious targets.
• Initiation of New Global Memorandum of Understanding (MOU) in collaboration with the Transport Decarbonisation Alliance (TDA).
• Analysis and Webinar in collaboration with FIER Automotive for the International ZEV Alliance (Dec 2020) on ZE truck applications and their achievement of cost parity by 2030 (Dec 2020). The webinar showcased real-world examples from the Netherlands and California.
• Launched of Zero-Emission Technology Inventory (ZETI), a first-of-its-kind tool and platform for cataloguing current and forthcoming zero-emission commercial trucks, buses and off-road equipment (Mar 2020).

Website

www.globaldrivetozero.org
www.cleanenergyministerial.org/campaign-clean-energy-ministerial/global-commercial-vehicle-drive-zero-campaign
Objective

To address urgent global energy challenges and promote the manufacture, purchase, and use of energy-efficient appliances, lighting, and equipment worldwide. The SEAD Initiative fosters information exchange on policies and activities, allowing participants to take advantage of best practices and lessons learned by other countries, and identify opportunities for bilateral and multilateral cooperation.

Lead Governments

International Energy Agency (IEA)

Coordinator

Participants

Australia, Argentina, Brazil, Canada, Chile, China, Germany, Indonesia, Korea, Mexico, Russia, Saudi Arabia, South Africa, Sweden, United States

Partners

Asia-Pacific Economic Cooperation (APEC), CLASP, ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), Kigali Cooling Efficiency Program (KCEP), UN Environment Programme (UNEP), IEA Technology Collaboration Programme on Energy Efficient End-Use Equipment (4E), Lawrence Berkeley National Laboratory (LBNL)

Recent Achievements

• SEAD Global Efficiency Medal Competition Award.
• SEAD workshop in collaboration with IEA, India’s Bureau of Energy Efficiency (BEE), UK government and with speakers from UK High Commission, IEA ELCOMA, EESL, and Blue Star.
• Technical support to COP26 Presidency in raising ambition levels on appliance energy efficiency in the lead up to COP26.
• High-level event on “Championing Product Efficiency in Support of Nationally Determined Contributions and Net Zero”.
• Workshops on “Super-efficient Equipment Appliance Deployment Initiative for Southeast Asia” and Super-efficient Equipment Appliance Deployment Initiative Workshop for Sub-Saharan Africa.

Website

www.superefficient.org
# CARBON CAPTURE UTILIZATION & STORAGE

**Objective**

To increase momentum on the deployment of CCUS as a viable CO2 mitigation option in a suite of clean energy technologies. It fosters strategic partnerships to accelerate both near and longer-term investment in CCUS and to advance deployment by making CCUS more competitive.

**Lead governments**

[Flag of various countries including Australia, Canada, China, European Commission, India, Japan, Mexico, the Netherlands, South Africa, United Arab Emirates]

**Coordinator**

IEA Greenhouse Gas R&D Programme (IEAGHG)

**Participants**

Australia, Canada, China, European Commission, India, Japan, Mexico, the Netherlands, South Africa, United Arab Emirates

**Partners**

Asian Development Bank (ADB), Carbon Sequestration Leadership Forum (CSLF), Global CCS Institute, International Energy Agency (IEA), Oil and Gas Climate Initiative (OGCI), World Bank (WB)

**Achievements since CEM11**

- **New member**: India joins the CCUS Initiative.
- **Webinar Series**:
  - CCUS in Cement/Concrete Industry (+700 attendees)
  - Progress and Layout of Carbon Capture, Utilization and Storage in China
  - Key Financing Principles in CCUS
  - Carbon capture, utilisation and storage in the Netherlands
  - Carbon capture, utilisation and storage in Japan
  - Direct Air Capture of CO2: Helping to Achieve Net-Zero Emissions (+1000 registrations)
  - Session at ‘Global CCSA2020 Conference’ chaired by the UK Government, with participation from India, China, and Japan
- **Annual CCUS meeting** with policy round-table, information sharing among key CCUS organisations
- **Two-day event** on financing CCUS projects at the 2020 Asia Clean Energy Forum in collaboration with the Asian Development Bank (ADB).
- **Workshop** on CCUS in hard-to-abate sectors in the Gulf Region, hosted by UAE Government.
- Participation in the Oil and Gas Climate Initiative’s (OGCI) Annual Stakeholder Dialogue event in New York, during the New York Climate Week.

**Website**


Clean Energy Ministerial CCUS Initiative [LinkedIn]

CEM CCUS Initiative Webinars [YouTube]
INTERNATIONAL SMART GRID ACTION NETWORK

ISGAN is also an IEA Technology Cooperation Programme (TCP).

Objective

Accelerate the development and deployment of smarter electricity grids worldwide, enabling increased demand response and energy efficiency. It focuses on five principal areas: policy standards and regulation, finance and business models, technology system development, workforce skills and knowledge, user and consumer engagement.

Lead Governments

Austrian Institute of Technology GmbH (AIT), Korea Smart Grid Institute

Coordinator

Austrian Institute of Technology GmbH (AIT), Korea Smart Grid Institute

Participants

Australia, Austria, Belgium, Brazil, Canada, China, Denmark, European Commission, Finland, France, Germany, Ireland, Japan, Korea, Mexico, Netherlands, Norway, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, United Arab Emirates, United Kingdom

Partners

European Technology and Innovation Platform Smart Networks for Energy Transition (ETIP SNET), Global Smart Energy Federation (GSEF), International Energy Agency (IEA), India Smart Grid Forum (ISGF), Mission Innovation (MI)

Recent Achievements

- **New member**: Brazil joins ISGAN and Israel has expressed interest in doing so.
- **ISGAN Award of Excellence** in partnership with the Global Smart Energy Federation (GSEF). [Award Ceremony for 6th ISGAN Award of Excellence](#) at CEM11. Confirmed that 7th Award of Excellence will focus on the theme “Future-Proofing the Grid Operation via Advanced Digitalisation & IoT”.
- **Published Paper** “Power Transmission & Distribution Systems Lessons learned from international projects on TSO–DSO interaction” as part of the ISGAN Regulatory Sandbox, a tool to capture recent developments and to support countries in developing regulatory instruments to enable upscaling and deployment of smart grid and energy system innovation.
- Active International **Webinar Series**: [www.iea-isgan.org/events/](http://www.iea-isgan.org/events/)
- 19th and 20th **Executive Committee Meeting**
- Installation of 1.7 million+ smart meters reported and work ongoing for nearly 10 million, with increased acceptance from utilities and regulators.

Website

[www.iea-isgan.org](http://www.iea-isgan.org)

Youtube channel; LinkedIn: ISGAN Awards of Excellence promotional video

Objective
To accelerate the regional electricity grid and power market integration in order to maximise the use of cost-efficient clean energy sources available at the country level and regionally. It will facilitate the development of sustainable, secure, and affordable regional electricity systems while contributing to economic growth, climate change mitigation, and decarbonisation of energy systems.

Lead Governments
Coordinator
Global Energy Interconnection Development Cooperation Organisation (GEIDCO), Payne Institute of Public Policy at the Colorado School of Mines

Participants
Chile, Finland, Korea, South Africa, United Arab Emirates

Partners
China Southern Power Grid, ESKOM, Korea Electric Power Corporation (KEPCO), State Grid Corporation of China (SGCC)

Recent Achievements
- Technical webinar series:
  - US Energy Association and USAID programme on East Europe energy interconnection
  - UNESCAP on Northeast Asia electricity market integration
  - Keynote speech from Co-Founder and Chief Strategy Officer of SunCable on building the world’s largest solar PV project based in Australia’s Northern Territory, with an undersea cable providing renewable energy to Southeast Asia.
  - Cross-border power trade from a North American perspective
  - Electricity Trade in the GCC and Middle East: Potential of a Pan-Arab Electricity Market
  - Five ways to accelerate power interconnection in Asia
  - Asian Development Bank (ADB) and Japan on Asian grid infrastructure development and finance under Covid-19
  - Power Grid Connection and its Technical Issues
  - Building Consensus in Cross-Border Power Trade

Website
## HYDROGEN

**Objective**

Raise international ambition and advance commercial-scale clean hydrogen and fuel cell-related deployment in the long-term globally, across all sectors. Achieve this via analysis, policies, programs, and projects that would make hydrogen a key enabler in the clean energy transition.

**Lead Governments**

 Coordinator

International Energy Agency (IEA)

**Participants**

Australia, Brazil, Chile, China, Finland, Germany, India, Italy, Korea, New Zealand, Norway, Portugal, Russia, Saudi Arabia, South Africa, United Arab Emirates, United Kingdom

**Partners**


**Recent Achievements**

- City of Bremen, Germany, in discussion to join the [Global Ports Coalition](https://www.iea.org/programmes/cem-hydrogen-initiative).
- Two Hydrogen Initiative Advisory Group Meetings (with participation from 20+ governments), as well as private sector.
- [CEM11 event](https://www.iea.org/programmes/cem-hydrogen-initiative) on “Opportunities for clean hydrogen to drive the sustainable recovery and clean energy transitions in a post-COVID world”.
- [Regional Hydrogen Workshop](https://www.iea.org/programmes/cem-hydrogen-initiative) on the North Sea, highlighting international collaboration for hydrogen deployment.

**Website**

Objective

Raise the visibility of international bioenergy activities to energy ministers in the larger context of the clean energy discussions. Be a cornerstone of public/private collaboration for commercial-scale global bioenergy deployment as a key enabler for clean energy transition, across all sectors.

Lead Governments

Finland, France, Indonesia, Portugal, South Africa

Coordinator

International Energy Agency (IEA)

Partners

Global Bioenergy Partnership (GBEP), EU Joint Research Centre, IEA Bioenergy TCP, Food and Agriculture Organization (FAO), International Renewable Energy Agency (IRENA)

Recent Achievements

- Planning/launch of BBEST 2020-21/BIOFUTURE SUMMIT II Virtual Conference in collaboration with the Brazilian Bioenergy Science and Technology Conference and the 20-country Biofuture Platform multilateral initiative.
- Webinar “The Impacts of COVID-19 on the advanced liquid biofuels sector”.
- Preparation of Report “2021 Policy Blueprint” which will include a series of country profiles discussing and analysing the effectiveness of domestic bioenergy policies in selected countries. General lessons learned and recommendations will be drawn and presented.
- Planning of High-level side event at UNFCCC COP26 to raise awareness about the Biofuture Platform Initiative, its work, and key messages among key high-level decision-makers.

Website

www.biofutureplatform.org
Objective
Promote wider adoption and improved use of energy planning models and scenarios to help countries accelerate their transition to clean energy.

Long-term energy scenarios are important tools that can identify options, assess risks, evaluate the roles of different energy technologies in energy systems, and help governments adopt the best policies for a cost-effective and sustainable transition.

Lead Governments
International Renewable Energy Agency (IRENA)

Coordinator
International Renewable Energy Agency (IRENA)

Participants
Brazil, Canada, Chile, Finland, India, Italy, Japan, Mexico, the Netherlands, Kingdom of Saudi Arabia, United Arab Emirates, United Kingdom

Partners
China National Renewable Energy Centre (CNREC), International Energy Agency (IEA), IEA Energy Technology Assistance Programme (IEA-ETSAP), Joint Institute for Strategic Energy Analysis (JISEA), National Renewable Energy Laboratory (NREL), European Commission Joint Research Centre (JRC), State Grid Energy Research Institute (SGERI), World Energy Council (WEC)

Recent Achievements
- Conversion from a CEM Campaign to an Initiative to reflect member’s long-term commitment towards this topic.
- **3rd International Forum** on Long-Term Energy Scenarios for the Clean Energy Transition.
- **High-level policy dialogue** on *Planning with Net-Zero Scenarios: Moving from Political Ambition to Country-Level Pathways* co-hosted by IRENA and the United Nations Framework Convention on Climate Change (UNFCCC).
- **Report** *Scenarios for the Energy Transition: Global experience and best practices* which presents a collection of over 50 practices from over 20 governments/institutions, dedicated to improving the use and development of long-term energy scenarios to guide the clean energy transition.
- **Flagship Event** “Second International Forum on Long-term Energy Scenarios (LTES) for the Clean Energy Transition” with participants from 83 countries.
- **International LTES network. 25+ Events** to exchange insights and compile best practices (*as of March 2021*).

Website
www.irena.org/energytransition/Energy-Transition-Scenarios-Network/ETS-Net-Events
www.cleanenergyministerial.org/campaign-clean-energy-ministerial/scenarios-energy-transition
**Objective**  
Advance gender diversity in clean energy professions, recognizing that the transition to a clean energy future will only succeed if we harness all talent.

**Lead Governments**  
Austrian Society for Environment and Technology (AIT)

**Coordinator**  
Austrian Society for Environment and Technology (AIT)

**Participants**  
Australia, Austria, Chile, Czech Republic, European Commission, Finland, Germany, United Kingdom, United States

**Partners**  
International Energy Agency (IEA)

**Recent Achievements**

- **C3E International Ambassador Programme** and C3E International’s Ambassador and Mentorship Webinar. It is made up of 60+ exceptional women from 11 countries who promote the initiative, build partnerships, mentor other women, and advocate for gender equality in the clean energy sector.

- **2020 C3E International Woman of Distinction Award** presented to Dr. Ibilola Amao from Engineering Technology and Innovations Solutions Company. and **2020 C3E International Organizational Leadership Award 2020** presented to the Chilean company Cerro Dominador: Concentrated Solar Power.

- **Webinar series** including “Women in Clean Energy Wednesdays: International Spotlight on Rwanda”.

- **New C3E Ambassadors** Joining from Austria, Chile, China, Finland, and the US and Kick-Off Meeting with the Austrian C3E Ambassadors

- **AIT joins C3E International as the new Operating Agent and UK joins C3E as an official member.**

- **C3E Energy Breakfast**. Prejudice, lack of recognition, and gender inequality are among the top challenges women face in energy-related studies.

- **C3E international Ambassador presents C3E at Job Fair Energy + Woman (Feria Laboral Energía + Mujer).**

- **CEM11 event on ‘Women in Energy: Harnessing All Talent’.**

**Website**

- [www.c3e-international.org](http://www.c3e-international.org)
Objective
Close the gender gap in the energy sector by encouraging public and private sector organizations to work towards equal pay, equal leadership, and equal opportunities for women in the energy sector by 2030. It seeks to encourage governments, the private sector, and other organizations to sign up to a common set of high-level principles and to showcase how they intend to contribute to the Campaign’s goals. In doing so, the CEM campaign contributes to the UN Sustainable Development Goal 5, under which world leaders pledged to achieve gender equality and empower women and girls by 2030 and puts gender equality at the heart of the transition towards a clean energy future.

Lead Governments Coordinator
Participants
Australia, Austria, Chile, Finland, France, Germany, Italy, Japan, the Netherlands, Norway, United Kingdom, United States
Partners
Recent Achievements
• 130+ Signatories from governments and the private sector that pledge commitment towards equal pay, equal leadership, and equal opportunities (up to March 2021).
• Diversio partners with Equalby30 to create the world’s first industry benchmark for diversity & inclusion in Energy.
• Workshop ‘Equal by 30 Reporting Framework’ with all Equalby30 signatories, detailing the establishment of a voluntary reporting framework and benchmarking data for gender representation and the systemic barriers experienced by women in the energy sector.
Website
www.equalby30.org/en
Objective

Develop energy policies and regulatory frameworks that help mobilise investment and financing to the clean energy sector at scale, particularly from private sources. It aims to create a unique partnership, bringing together energy ministers, other government agencies, private companies, and financial institutions.

Lead Governments

International Energy Agency (IEA)

Coordinator

International Energy Agency (IEA)

Participants

Brazil, Canada, European Commission, Mexico, the Netherlands, United Kingdom

Partners

World Bank Energy Sector Management Assistance Programme (ESMAP), Climate Investment Funds Technical Assistance Facility for Clean Energy Investment and Finance (CIF-TAF),

Recent Achievements

- Panel Discussion “Mobilising investors to finance clean energy transitions” at London Climate Action Week 2020.
- Investment Coalition Event planned at 2021 London Climate Action Week.
- Report and Launch Event on “Financial performance of clean energy companies and the capital allocation considerations for institutional investors” in collaboration with the Imperial College Business School Centre for Climate Finance.
- Contribution to IEA Special Report on “Financing Clean Energy Transitions in Emerging Market and Developing Economies”.
- Report and Launch Event on “Financial performance of investing in unlisted clean energy assets and capital allocation considerations for institutional investors”.
- CEM11 event “Mobilising investors to finance clean energy transitions: how can private capital boost a sustainable recovery?” with support from the Clean Energy Transitions in Emerging Economies programme and the European Union’s Horizon 2020 research and innovation programme.

Website

## Objective

Provide policymakers with free resources and advisory support on clean energy policies, regulations, and financing mechanisms to help governments reach their clean energy and development objectives quickly and cost-effectively. A source of high-quality clean energy policy and deployment information, providing expert assistance, peer forums, and training, bringing together a network of policymakers to work on clean energy solutions.

## Lead Governments

Coordinator
US National Renewable Energy Laboratory (NREL)

Participants
Canada, China, France, India, Indonesia, Italy, Mexico, Sweden, United Arab Emirates

Partners
IRENA, REN21, GWNET, CTC-N, Clean Power Hub

## Recent Achievements

- CESC has trained **15,000+ policymakers, regulators, and other stakeholders** through remote webinars and in-person workshops (as of Mar 2021)
- **Utilises 60+ world class policy and finance experts from 15+ countries** (as of Mar 2021).
- Collaboration with national, and subnational governments, as well as regional organizations, provision of up to 120 hours of timely and high-quality support at no cost.

## Website

- [www.cleanenergysolutions.org](http://www.cleanenergysolutions.org)
EXCELLENCE IN ENERGY MANAGEMENT WINNERS

1. CTBC Financial Holding Co., Ltd. of Taiwan, China
2. JK Tyre & Industries Ltd., Vikrant Tyre Plant, Mysuru of India;  
3. PT Indofood CBP Sukses Makmur Tbk. Noodle Division of Indonesia  
4. Tipperary Co-Operative Creamery Limited of Ireland.

Another 42 organisations were recognized with the distinguished Energy Management Insight Award.

INTERNATIONAL WOMAN OF DISTINCTION
Dr. Ibilola Amao  
Principal Consultant of Lonadek Inc. 
Award Finalists were:  
Ruba Al-Zu’bi, Senior Green Economy Consultant and Co-founder of Jordan Green Building Council 
Jane Kearns, Vice President, Growth Services at MaRS Discovery District

ORGANIZATIONAL LEADERSHIP AWARD
Award finalists included:
GRADUATED WORKSTREAMS

- Advanced Cooling Challenge (ACC) Campaign (see Website)
- Advanced Power Plant Flexibility (see Website)
- Corporate Procurement Of Renewable Energy Sources (see Website)
- Distributed Generation in Strategic Regions Campaign (see Website)
- Global Lighting and Energy Access Partnership (LEAP) (see Website)
- Energy Management Campaign (see Website)
- Energy Management Working Group (see Website)
- Global Lighting Campaign (see Website)
- Multilateral Solar and Wind Working Group (see Website)
- Nearly Zero Energy Buildings (see Website)
- Sustainable Cities and Eco-Energy Towns (see Website)
CEM IN QUOTES

Minister Mika Lintilä, Finland
"CEM has been and will be, the key platform for Finland to advance clean energy in cooperation with other countries and stakeholders. We need to be ambitious in developing CEM together. We need to take steps to make the clean energy decade a successful one. We need CEM’s mission for the next ten years, which will inspire us to take the giant leap in developing clean energy globally.”

Director-General Wooséok Choi, South Korea
"Korea plans to make stronger efforts in its existing CEM workstreams, including smart grids and hydrogen initiatives. I look forward to sharing Korea’s lessons in implementing the Green New Deal with CEM Members and workstreams. We hope to further strengthen our cooperation with CEM Members.”

Director-General Li Yong, UNIDO
"Building a better future that supports sustainable development will require resources and political will, but most importantly, it requires global solidarity and cooperation. UNIDO is proud to partner with CEM and will continue to engage proactively to accelerate clean energy transitions during and beyond this current crisis. Our goals are very much aligned.”

Minister Dan Jørgensen, Denmark
"Denmark wishes to confirm its strong commitment to the Clean Energy Ministerial and its mission to accelerate clean energy transitions. We are co-leading and participating in several campaigns and initiatives.”

Minister Angus Taylor, Australia
"Australia will be expanding its existing cooperation with bilateral partners through platforms like the Clean Energy Ministerial and Mission Innovation, and we want these partnerships to focus on technology solutions that will deliver good economic and emissions outcomes. Australia remains committed to the CEM through our participation in the new Hydrogen initiative. I am pleased to be able to support CEM as it moves into its next phase.”

Director-General Yota Ono, Japan
"Japan will continue to contribute to the CEM activities and promote clean energy around the world”

Energy Envoy Bert Roukens, The Netherlands
“Meetings like these underline the commitment of countries to work on energy transition and achieve the goals of the Paris Agreement. Cooperation through the different CEM work streams also contributes to achieving our target. Collaboration is crucial to bring this further. Tangible results and outcomes contribute to the added value of CEM’s existence. A clear linkage between CEM, MI, and other organizations such as the IEA is important. We are looking forward to the start of the discussion about CEM3.0.

Minister Megan Woods, New Zealand
“For the sake of those alive now and all those that will follow us, I call on all of us here today to move towards a low emissions future”
Thank you