Accelerating electrification for a low-carbon future
We are a CEO-led alliance of leading global electricity companies at the heart of the electrification revolution. Our concrete actions promote cleaner electricity generation, energy efficiency and electrification as pathways to reach global development and climate goals.

OUR STRENGTH LIES IN OUR GLOBAL MEMBERSHIP

Our members represent the world’s largest and most innovative utilities committed to sustainable electrification.
Message from the **CHAIRMAN**

It has been an honour to serve as the Chairman of the Global Sustainable Electricity Partnership (GSEP) for 2018-2019. For 27 years, this organization has been an active player in sustainable electricity development worldwide. Kansai Electric Power Company has been a proud member of this alliance since its creation, and we have been honoured to lead this group at such an exciting and important time for all of our member companies.

The electricity industry as we know it is changing at an unprecedented pace. New technologies are transforming our industry at a fundamental level and the power system is becoming increasingly complex and intricate. This year, the GSEP directors spearheaded a transformation of our organization to adapt to the changing realities of our industry. Building on the strength of our past, and looking to the future, we have positioned GSEP as the unique and global platform for high-level exchanges on electrification between utility companies. It is in this spirit that we chose our theme for the year “Challenges in electrification to promote a low-carbon society: the expected role of utilities in both electricity supply and demand.”

The organization's activities and discourse have flourished this year under our leadership. We have been pleased to lead the GSEP members in fruitful discussions surrounding the 4Ds - decarbonization, decentralization, digitalization, and deregulation and market design. These four megatrends are changing our business models and redefining what it means to be a utility company. We have guided high-level conversations on the strategies that our members are developing to tackle the biggest challenges in the transformation of our industry today.

Moreover, we are proud to continue our commitment to capacity building to support personnel in other countries in their sustainable electricity growth. This year, Kansai Electric, with the collaboration of other GSEP members, led a successful training workshop in Kathmandu, Nepal, on hydropower generation development. We are excited to continue our collaborations with members and partners to accelerate electrification worldwide.

Finally, we are pleased to welcome two new companies into our group: the Office National de l’Electricité et de l’Eau Potable (Morocco) and PGE Polska Grupa Energetyczna (Poland). Both these companies bring a wealth of experience and expertise to the table. We look forward to continuing our discussions on sustainable electrification, enriched by these new perspectives.

Makoto Yagi
Chairman and Director, Kansai Electric Power Co., Inc.
GSEP Chairman, 2018-2019

Message from the **EXECUTIVE DIRECTOR**

Over the last year, the General Secretariat devoted our efforts to achieving our members’ vision to make GSEP a unique global platform for the promotion of electrification. We developed and implemented a series of value-added actions to transform our organization. We created a global Electrification Hub presenting data on electrification’s progress and advanced technologies. We launched our Electrification Dialogues – a forum dedicated to fostering open exchanges between the key actors in the industry’s transformation. We also launched an internal weekly information bulletin providing strategic insights on business, policies and technologies. Finally, we have actively supported our members’ electrification project to implement the first electric bus in Lima’s public transit system.

These are among the highlights of our achievements this year. We hope you will enjoy reading our activity report.

Martine Provost – Executive Director, GSEP
Our CEO-led alliance is at the forefront of global electrification. We firmly believe that reliable and affordable electricity is essential for our digital and urban era. Electricity is efficient, flexible, reliable, and an indispensable tool for climate protection.

THE PACE OF ELECTRIFICATION NEEDS TO DOUBLE IF WE WANT TO MEET GLOBAL CLIMATE GOALS

Electrification is a vital pathway to decarbonizing energy, and part of the journey to a safer and cleaner future. Our *New electricity frontiers* report, published in May 2018, provides an overview of the global situation and trends for the future, and examines the conditions that must be met to achieve extensive end-use electrification.

Public policies will play a central role in enabling electricity to make economies more competitive, improve quality of life in a digital and more urbanized world, and better protect the environment and climate thanks to decarbonization of the power mix.

*Electricity fostered development in the 20th century. It will be the energy of the 21st century.*
WE ENGAGE STAKEHOLDERS IN MUTUAL LEARNING EXPERIENCES TO DEVELOP ELECTRIFICATION’S POTENTIAL

This year, we launched a global conference series to connect stakeholders in the electrification sphere. Our Electrification Dialogues engage high-level participants in mutual learning experiences to accelerate electrification and develop its potential. Our inaugural event took place at the Global Climate Action Summit in San Francisco in September 2018. We leveraged the international expertise of our members to share cutting-edge information on electrification technologies, new business models, innovative public policies, and the benefits of electrification for the environment and customers. Upcoming Dialogues are planned for 2019-2020 in Brussels, Santiago and Marrakech.

WE ARE A GLOBAL REFERENCE FOR ELECTRIFICATION

As the voice of the electric utility industry, we are an authoritative source of strategic electrification information. Our new Electrification Hub on our website provides a global perspective and detailed indicators on the state of electrification. This year, we also launched an internal presentation series for our members to share insights on electrification strategies, new technologies, and innovative policies.
In order to achieve zero net emissions in the second half of the 21st century, the efficient and cost-effective electrification of end uses must be enhanced at the same time as the power mix is decarbonized.

— From our New electricity frontiers report
“Electricity is the energy of tomorrow’s world, with a unique set of qualities that make it indispensable to meeting the growing need for reliable, affordable and clean energy.”

— Jean-Bernard Lévy, Chairman and CEO, EDF and GSEP Chairman 2017-2018

GATHERING GLOBAL UTILITY CEOS AT THE PARIS SUMMIT

Our annual CEO Summit, GSEP’s flagship event, was hosted from May 31 to June 1, 2018 by EDF. The Summit brought together CEOs and senior executives of the world’s largest electricity companies. These leaders agreed that GSEP is the global platform for electrification and innovation to help them and allied companies satisfy their customers’ demands for reliable, affordable, and clean energy.

At the Summit, GSEP CEOs shared their perspectives on the major issues faced by their companies today, including new uses for electricity in end-use sectors, and the effects of digitalization on the electricity sector.

WORLD-CLASS SPEAKERS SHARED THEIR INSIGHTS ON CUTTING-EDGE ISSUES

Special guest speakers at the Summit included Fatih Birol, Executive Director of the International Energy Agency; Jean-Yves Le Drian, French Minister for Europe and Foreign Affairs; and former French Minister for Foreign Affairs, Hubert Védrine, who spoke on the geopolitical dynamics of energy, supporting GSEP’s electrification vision. Nobel-Prize-winning economist Jean Tirole spoke on the economy of climate, and guest speakers Sébastien Bazin, CEO of AccorHotels and Laurent Petizon, Managing Director of AlixPartners, shared insights from their respective industries.
UNITING MAJOR ACTORS IN NEPAL TO FOSTER HYDROPOWER DEVELOPMENT

On January 15 and 16, 2019, we held a workshop in Kathmandu, Nepal on hydropower generation development. The objective of the workshop was to help local project developers identify actions that will facilitate the advancement of hydropower projects in the country. Nepal is blessed with significant hydropower resources. If developed strategically, these resources could provide large quantities of energy.

The workshop was organized in collaboration with the Nepal Electricity Authority (NEA), the Nepalese Ministry of Energy, Water Resources and Irrigation (MoEWRI), and GSEP member companies Kansai Electric Power, EDF and Hydro-Québec. More than 60 local and international experts and government delegates came together to share experiences, lessons learned and best practices from other hydropower projects in the region.

GSEP and the Energy Sector Management Assistance Program (ESMAP) of the World Bank have been collaborating on four guidance reports to assist countries in scaling up grid integration of renewable energy sources. These reports cover diverse subjects related to successfully integrating variable renewable energy into the electricity grid, including forecasting systems, grid integration requirements, compensation devices, and the types of technical studies that need to be performed to ensure the viability of the grid system.

Our member companies Enel and Hydro-Québec contributed to these reports. These documents are part of ESMAP’s Variable Renewable Energy (VRE) Grid Integration Support Program, which aims to increase the capacity of countries to develop policies, improve investment planning, and adopt best practices for VRE integration. These reports are scheduled to be released in 2019.
BRINGING THE FIRST ELECTRIC BUS TO LIMA’S PUBLIC TRANSPORT SYSTEM

This year, we reached some important milestones in our pilot project to bring the first electric bus to Lima’s public transport system. In November 2018, we signed an agreement with the Peruvian Ministries of Energy and Mines, Environment, and Transport and Communications, and Protransporte (local public transit operator) to officially launch the project. GSEP member companies Hydro-Québec and Enel are spearheading this project. The two companies are global leaders in the promotion of electric transport and the deployment of charging infrastructure.

For the two-year period of this pilot project, an 80-passenger electric bus will operate on one of the busiest arteries in Lima, collecting real-time data on speed, battery performance, operations and environmental impact. The data will be analyzed and compiled into a report that the Peruvian government will use to implement large-scale electrification across the country’s public transit systems. The Peruvian government considers transportation electrification as an important step towards meeting its commitment to reduce the country’s carbon footprint by 31% before 2030. The switch to electric mobility will have real impacts for Lima and Peru.

SHARING OUR MEMBERS’ EXPERTISE WITH A GLOBAL AUDIENCE

Our webinars are strategic resources for industry players to learn more about our members’ international best practices. This year, we hosted three webinars on various subjects.

• “The role of electrification in the energy revolution: China’s targets and SGCC’s actions,” presented by Dr. Jiangtao Li, Senior Researcher at the State Grid Energy Research Institute

• “Spotlight on China: developing EVs and charging infrastructure in a new energy system,” presented by Dr. Xianzhong Dai, Senior Engineer and Researcher at the State Grid Energy Research Institute

• “Columbus, Ohio, USA: A replicable model for smart electrification for social good,” presented by Ram Sastry, Vice President – Innovation & Technology, American Electric Power
Since 2001, we have supported students from developing countries in their sustainable energy studies. Our students are dedicated, intelligent, and inspiring youth whose ideas and ambition are creating a bright future for the electricity industry.

“...The opportunity GSEP gave me to continue my studies allowed me to finish my master’s degree and come back to my country, Ecuador, to work at CELEC EP, one of the biggest state-owned holding companies engaged in the generation and transmission of electric power. During my year abroad, I had the opportunity to exchange knowledge with people from different countries, who were also interested in sustainable development and renewable energy. This included other scholars and my GSEP alumni mentor, who gave me useful advice during this period.”

María Belén Cevallos
2017 scholarship recipient from Ecuador

2019 SCHOLARSHIP RECIPIENTS

- Itzel Nayeli Balderas Sánchez from Mexico will pursue a Master of Science in Engineering in Sustainable Energy at the Technical University of Denmark.
- Ronald Marshall Monterroso Rubí from Honduras will pursue an MSc Sustainable Energy Futures at Imperial College London in the United Kingdom.
- Oluwagbemisola Akinsipe from Nigeria will pursue an MSc in Energy and Resources at the University of California, Berkeley in the USA.
- Mussie Abraham from Eritrea will pursue the Master Programme in Renewable Electricity Production at Uppsala University in Sweden.
- Hafte Hayelom Adhena from Ethiopia is pursuing the Erasmus Mundus Master Course in Sustainable Transportation and Electrical Power Systems in Europe.
- Sana Sajjad from Pakistan will pursue an MSc in Renewable Energy Engineering at Heriot-Watt University in the United Kingdom.
- Stephanie Rawi from Indonesia will pursue the InnoEnergy MSc in Renewable Energy program in Europe.
- Pranjal Jain from India is pursuing an MSc Energy Science and Technology at ETH Zurich in Switzerland.