

**Haeinsa Temple Janggyeong Panjeon, the Depositories for the Tripitaka Koreana Woodblocks:**

The Temple of Haeinsa, on Mount Gaya, is home to the Tripitaka Koreana, the most complete collection of Buddhist texts, engraved on 80,000 woodblocks between 1237 and 1248.

# IEPPAA Newsletter

International Energy Policy Program Alumni Association

**Vol.9** Fall/Winter 2019

# World Atlas of IEPPians



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## About IEPPAA

**Launched** in 2012 with thirty Alumni, the International Energy Policy Program Alumni Association (IEPPAA) is committed to its main principle about keeping alumni connected with the university's program and offering opportunities for service. The Alumni Association works as an important connection to the international Energy Policy Programs and institutions involved in different energy fields with more than 20 alumni member countries around world.

The International Energy Policy Program Alumni Association ("IEPAA") is an independent association, with the mandate to promote networking between alumni members to exchange experiences and knowledge sharing related to the global energy industry to foster international cooperation between the Republic of Korea and the respective countries of the alumni member. It also contributes to enhancing the excellence of the international Energy Policy Program.





### Dear IEPP Members & Friends

It is an honor to serve as President of 2019 IEPP Alumni Association. The mission and commitment of our IEPP Alumni Association remains the same, to keep our IEPP alumni connected to our program and Korea as well, and each other, and to support the students who will follow as future IEPP program graduates. I will endeavor to build upon the activities and initiatives set by former Alumni President as well as new ideas to ensure that the Alumni Association continues to create better network for Korea and IEPP member countries. One of our first steps this year is to upgrade our networking capabilities to reach out to our alumni with the latest information about IEPP activities and current energy situation and to work on pro activity of Alumni members to be engaged in future IEPP activities. One thing that is important to be considered by us is on how to improve the energy collaboration among us especially with Korea and IEPP member countries. IEPP is a big family with strong diversity which contains energy expert from 29 countries from all around the world.

The energy problems can't be solved by one country action because each country relies on each other and the cooperation and collaboration among them is really important. I believe IEPP can give a valuable positive impact to global energy sector and contribute on creating the better world in the future. I hope that the valuable networking opportunities can and will harness solid professional relationships, create more value for our energy policy, and improve our career as an energy policymaker in our country. Each country has its unique energy problems and it is important to learn on how the other country can solve their issues. Korea as one of advanced country on developing technology on energy sector can be our strong partner to create the solution and IEPP can be a bridge between your country government and Korea government or business entities. Strong cooperation among us could be achieved if we have a good understanding and willing to work hard together as a one IEPP family.



Ardin Fadolly / President of IEPPAA  
Energy Security Analyst, Ministry of Energy and Mineral Resources

## Mongolia's Energy Situation

At 1,564,116 km<sup>2</sup> (603,909 square mi), Mongolia is the world's 18th largest country with a population of 3,238,479 people. The geography of Mongolia is varied, with the Gobi Desert to the south and cold, mountainous regions to the north and west. The highest point in Mongolia is the Cold Peak in the Tavan Bogd massif in the far west at 4,374 m.

In 2018, Mongolia's electricity production had reached 6,624.8 million kilowatt-hours (kWh), an increase of 8.8% compared to the previous year's production. 93% of total electricity was produced by thermal power plants, 6% by solar and wind, 1% by hydro power sources, and 0.06% by diesel generators. Total heat energy production had reached 9,425.1 thousand Gcal, an increase of 5% or 448.5 thousand Gcal, compared to the previous year. During 2018, 1,683.6 million kWh of electricity were imported making an increase of 161.2 million kWh or 10.6% compared to the previous year.

The power system of Mongolia accounts for 3% of GDP and supplies 80% of the population with electricity. The system is considered to be a major branch of the economy and infrastructure sector of Mongolia and it strongly influences the social and economic viability of the country. Approximately 80% of the consumed electricity is generated from coal-fired power plants, 4% is produced from diesel generators and 14% from renewable energy sources (mainly hydropower). The remaining 20% is imported, mainly from the Russian Federation. The reason that coal is still the main source for power generation is because Mongolia's estimated total coal resource is 173 billion tons in 15 coal basins. In order to reduce greenhouse gas emissions and to achieve the country's goal of increasing the share of renewable energy to 30% by 2030, the Government of Mongolia has been working to support renewable energy projects in Mongolia in many different ways since the country has tremendous potential in renewable energy. The annual average amount of solar energy is 1,400 kWh/m<sup>2</sup>/y with solar intensity of 4.3 - 4.7 kWh/m<sup>2</sup> per day. Total annual radiation intensity equals  $2.2 \times 10^6$  TW.

Several renewable energy projects were implemented in Mongolia in 2018. For example, "GEGEEN" 15 MW Solar Power Plant was put into operation. "Naranteeg" LLC built a 15 MW solar power plant and named it "Gegeen", in Zamiin-Uud Soum of Dornogovi province and started to supply electricity to the CRIPG after obtaining a generation license on November 22, 2018. The total investment for this project was 26.2 million USD and their expected annual electricity production is 25.1 million kWh.

The "Sainshand Salkhin Park" LLC built a 55 MW wind power plant, in Zamiin-Uud Soum of Dornogovi province and started to supply electricity to the CRIPG after obtaining a generation license on January 17, 2019. The total investment for this project was 121 million USD and their expected annual electricity production is 177.4 million kWh. As a result, the produced electricity could supply 150,000 households

### 1. General information



- Area: 1.564 million square km
- Population: 3,026,102.0 (2016)
- Government Type: Semi-presidential republic
- Capital city: Ulaanbaatar (approx. 1.2 million)
- GDP: 11.2 billion USD (2017)
- GDP per capita: 3,651.1 USD
- Real GDP growth: 1 % (2017)
- Unemployment rate: 8%
- Inflation: 6.7
- Exports: 4.3 billion USD
- Imports: 3.0 billion USD





"GEGEEN" 15 MW Solar Power Plant



"Sainshand Wind Park" 55 MW WP

with electricity, 200,000 tons of CO<sub>2</sub> emissions will be avoided, and 78,400 tons of coal consumption will be prevented.

The Municipality of Ulaanbaatar City has signed a memorandum of understanding with the Asian Development Bank (ADB) and the International Finance Corporation (IFC) to support the implementation of green building standards and certification systems for the new homes. According to the IFC, a third of Mongolia's population live in urban ger areas, or settlements of low and middle income households – these districts suffer from poor sanitation, inadequate solid waste management and limited water supply, which pose health and environmental hazards. These ger areas heavily rely on coal and biofuels for heating and energy, which generate large carbon emissions and worsen air pollution, especially during the winter. Out of the 10,000 homes, 1,500 will be social housing, 5,500 will be affordable housing and the remaining 3,000 will be sold at the market price.



Petrochemical Refinery Project Ceremony

The Government of Mongolia has been cooperating with the Government of India in implementing the country's first petrochemical refinery project as part of its strategy to create energy security. The project will include commissioning of railway, road and power transmission infrastructure for the construction of country's first petrochemical refinery. The Mongol refinery project is the largest project undertaken by the government of India under its Lines of Credit (LoC) program and is expected to cut some of Mongolia's fuel import dependence. The petrochemical refinery project to be built at an approximate cost of 1.25 billion USD will be financed by the Government of India. Once ready, the capacity of the refinery will be 1.5 million metric tons per annum, with diesel and gasoline as the primary products and liquefied petroleum gas (LPG), fuel oil and jet fuel being produced as secondary products. State-run Engineers India Ltd (EIL) is the project management consultant for the development of the oil refinery—near Sainshand in southern Dornogovi province— expected to be completed by 2022.

Chimedregzen.B

Source: The Energy Regulatory Commission of Mongolia  
The Ministry of Energy, Mongolia

## IEPP on Jeju Island Trip



"Jeju Wind Farm View from KIER"



"IEPP Students on lecture by KIER"

On September 18-19, 2019, IEPP students went to Jeju Island to attend the Engineering Educational Conference. After taking an early morning flight from Gimpo Airport to Jeju Island, the students' first schedule was visiting Korea Institute of Energy Research (KIER). The students got the opportunity to listen to a lecture from the Director of the Institute on how Jeju Island is currently the frontier in renewable energy development.

The institute provides a small area for visitors where the anatomy and parts of wind turbines are exhibited. There are currently a lot of functioning wind turbines at KIER and they gave a million-dollar sea view in front of the institute. As the students might not see this kind of scenery and technology every day, everyone took lots of photos.

During lunch, the entourage got to try Jeju Island special delicacies, which included very delicious seafood at a restaurant run by locals. All seafood lovers were happy! The second site that the students visited on the trip was the famous Manjanggul Cave which is the 12<sup>th</sup> longest lava tube cave in the world. The cool thing is that whatever the temperature outside the cave, inside the cave, is always stable at around 15 degrees Celcius. And after a long and tiring walk, the students went to Hamdeok Beach to enjoy pastries and coffees in the famous Café Delmoondo. Time for dinner arrived with a visit to another local restaurant to enjoy Bulgogi, Samgyeopsal, and Fried Mackerel, which were all delicious.

On the next morning day, everyone went hiking at Darangshi Oreum and enjoyed the skyline of Jeju from the top of the mountain. It was a windy day, but a great experience. The hike was then followed by a visit to Gwandeokjong Palace. Some students even tried traditional costumes and took a lot of photos. At Samsunghyeul, the group later learned about how three demigods came and developed Jeju thousands of years ago.

The outing continued with a visit to Jeju 4.3 Peace Park where the group learned about a dark history involving the Jeju Massacre. Lastly, before going to the conference, the team had lunch at a local Italian Restaurant, which served risotto with grilled chicken, various pasta, and the most memorable dish was pasta with sea urchin. The Jeju trip ended with attendance at the Engineering Education Conference. IEPP students participated in the seminar, which discussed the mission of developing engineering education for better new generation engineers.

Although it was short, the two days were filled with many memorable experiences for the entourage once they got back to Seoul. Jeju was terrific, and hopefully, there will be another opportunity for the students to visit the island.



"Enjoying Hamdeok Beach"



"At the Conference with Professors"



## KOREA INTERNATIONAL RENEWABLE ENERGY CONFERENCE (KIREC) 2019

IEPP SNU professors and students participated in the 8<sup>th</sup> edition of the International Renewable Energy Conference that was held from 23 – 25 October 2019 at COEX, Seoul, Korea. The Korean government, in its ambitious target to increase the share of renewable energy in its energy mix, has formulated the 3<sup>rd</sup> Energy Basic Plan, which incorporates the Renewable Energy 2020 Action Plan and the Hydrogen Economy Roadmap. In a bid to prove its commitment to clean energy transition, this 8<sup>th</sup> International Renewable Energy Conference was jointly hosted by the Ministry of Trade, Industry, and Energy (MOTIE), and the Seoul Metropolitan Government (SMG).

This year's conference provided a global forum for energy specialists and experts from governments, private sectors, civil society, academia, etc. They came together and shared their experiences towards finding a sustainable solution to reduce or eradicate air pollution and ensure a clean and safe environment. In the cause of the event, there were parallel sessions which were divided into five tracks, which discussed in detail various issues around energy value chain as well as policy and market design. The roles of cities in promoting and advancing renewable energy and energy transition, innovative solution to help the energy transition, and ways to make energy transition more gender-inclusive were among the topical issues deliberated upon. One of the high-panel discussions focused on the theme: renewable energy as the conventional fuel for tomorrow. Involved in this discussion were ministerial panelists from China, Mongolia, Germany, Cambodia, and South Korea who shared their experience on renewable energy and energy transition policies of their countries.



"IEPP Students at Opening of KIREC 2019"



"IEPP Students with Professors at KIREC 2019"

## KEEI-GETPPP 2019 International Forum



"members of IEPP-SNU and KU-GETPPP"

The KEEI-GETPPP 2019 International Forum was held on the 25<sup>th</sup> of October 2019 at the Koreana Hotel in Seoul, supported by Korea Energy Economics Institute (KEEI) and Ministry of Trade, Industry, and Energy (MOTIE). The forum was held in three sections and panel discussions. The theme for this year was "Energy, Climate Change and Sustainable Development in Emerging Economies".

The students from the International Energy Policy Program (IEPP) of Seoul National University, Global Energy Technology Policy Professionals Program (GETPPP) of Korea University, and alumni of IEPP-SNU and KU-GETPPP from various countries attended the forum. Three alumni of IEPP-SNU from Cambodia, Mongolia, and Kazakhstan gave their presentations in this forum.

Alumni and current students from IEPP-SNU had a reunion and had the opportunity to build a strong network through this forum. It is expected that the forum will be continued in the coming years to enhance and expand cooperation in the energy industry between the Republic of Korea and the respective countries of the alumni.

Written by: Zune Zune Htet  
The Republic of the Union of Myanmar



## BIXPO 2019



“at BIXPO 2019”

IEPP students and professors participated in BIXPO 2019 that was organized by Korea Electric Power Corporation (KEPCO) in Gwangju city between 6<sup>th</sup> and 7<sup>th</sup> November 2019. The event focused on discussions of new trends and business opportunities in the electric power industry. World energy leaders from around the globe shared their ideas on technology transformation as well as new business opportunities.

One of the sessions that IEPP took part in was the World Bank Energy Forum which focused on disruptive technology applications in developing countries. The session covered opportunities in disruptive technologies for sustainable energy supply, including floating PV, electric vehicles, integration of variable renewable energy and energy storage solutions.

During the session Mr. Matthew Ofuonyebuzor, an IEPP student from Nigeria, gave a presentation on the renewable energy opportunities in the Nigerian energy industry. Notably the first trip to the southern part of Korea for most IEPP students, the trip was indeed very interesting. KEPCO also organized an excursion for the group and hosted them to a dinner in one of the famous restaurants in the city. The trip was great, and the students can hopefully have an opportunity to once again visit Gwangju city.



“Mr. Matthew Ofuonyebuzor presenting in World Bank Energy Forum”

## Life in Seoul

### IEPP Student Lunch during Chuseok Holiday

One of the things learned by the IEPP students as an international student in South Korea is the culture. Chuseok, for example, is notably a famous national holiday celebrated by Koreans. It is almost like thanksgiving in other countries, which marks the major harvest time or else known as the Autumn Eve. The holiday this year spanned three days nationally. Thus, offices and schools closed in Korea during Chuseok. People who live in the city mostly visited their hometowns to celebrate it with their families and friends.

For international students like IEPP, this Chuseok, the students got to celebrate it by gathering together to enjoy lunch. All the second and first-year students including professors joined the gathering and at the time, the Chuseok spirit could be felt by the gathering. All IEPP members had a chance to take a break and talk about other things besides school work. Some of the students even shared their current life experiences and other



"IEPP Chuseok Lunch Gathering"

trivial things. The students also got some Chuseok gifts to enjoy at home. It was a well-spent holiday by getting together with friends while having a delicious lunch.

### Experiencing Four Seasons In Seoul

Korea is geographically situated in a temperate climate zone at medium latitude. As a result, it has four distinct seasons — spring, summer, autumn, and winter. The weather in spring and autumn is clear and dry due to the influence of anticyclones. While in summer, it is hot and humid due to Korea's location on the North Pacific Edge. And in winter, continental high pressure brings cold, dry weather to the land.



"Yangjae Stream"





### Spring: The Season of Budding Flowers

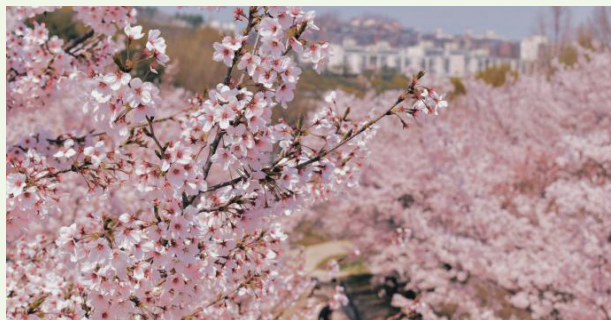
Spring season in Korea is usually between March and May. The warmer weather causes trees and grass to bud, and various flowers bloom in the mild and warm spring weather like azaleas, forsythias, and royal azaleas. However, the cherry blossom is the forerunner of spring. There are usually many festivals to enjoy cherry blossom in Seoul. The famous one is the Yeongdeungpo Yeouido Spring Flower Festival. The festival usually takes place every April along the street behind the Korea National Assembly Building.

The festival is usually crowded, not only for Korean people, but also many visitors from other countries who come to enjoy the festival in Seoul. If the place is too packed, there are other places to enjoy cherry blossom in Seoul, including Yangjae stream and Seoul Forest. The trees usually bloom around the first week of April. Strolling around the Yangjae stream and Seoul forest to enjoy cherry blossoms is a right choice to enjoy spring vibes in Seoul.

### Summer: Time for Picnic on Hangang River

Summer is usually between June and August. The dryness characterizing winter and spring disappears in summer, replaced by hot temperatures and humid air. Generally, the period between the end of June and mid-July is the rainy season in Korea, which is marked by clouds and frequent rainfall for as short as one week to as long as three weeks. Although the summer weather is scorching hot there are many parks in Seoul that offer places to soothe the day with greenery scenery.

Summer is also marked by many summer festivals such as water festivals, concerts, or food festivals in Seoul. The hot weather does not hold up the Seoul citizen to go out. Han Riverbank is the most crowded place in Seoul during the summer. Activities like bike riding or having a picnic on the weekend with friends at Han River are a popular way to enjoy "the hottest season" in Seoul. As a bonus, one should not forget to take the beautiful sunset pictures while they're out having a good time.



"Yangjae Stream"



"Yeongdeungpo Yeouido Spring Flower Festival"



"View from Han Riverbank"



"IEPP Students on Han River Picnic Time"

### Autumn: The Season of Fall Foliage

Koreans refer to autumn as the season of cheongomabi. It is because in autumn, the weather is fresh and crisp, the sky is blue with a few clouds, and the falling leaves change their hues to yellow and crimson. Autumn is the most beautiful season in Korea. However, the best way to enjoy autumn foliage is in the mountains. Many Koreans, and foreigners, hike the mountains to enjoy the autumn foliage. The best time to enjoy the fall foliage in the mountains is around the end of October until the mid of November.

If hiking the mountains is too hard, strolling around palaces, parks or streets around Seoul with coffee in hand also serves as a nice fall experience. Starting from mid-October, "Seoul Eulalia Festival" is usually held at the top of Haneul Park with the magnificence of silver grass field scenery as the celebration of the autumn season. Another place to check while cherishing the autumn in Seoul is Changdeokgung Palace where a stunning garden showcases some of the finest fall foliage in the city with a beautiful pond and the golden autumn leaves reflected in the water.



"Fall in Gwanak Mountain"



"Silver grass at Haneul Park"



"Changdeokgung Palace"

### Winter: Snow Wonderland

In winter, the days are shorter, with the sunrise occurring later and the sunset occurring earlier, and the season spans from December to February. Typically, a cycle of three days of cold weather is followed by four days of warmer weather, and it's called samhansaon. Wintertime is a little bit harsh in Korea as the freezing temperature probably makes many people to get out of their warm blankets. On a snowing day, Seoul will have gorgeous scenery with the white color as snow covers the city.

The snack stands are always packed during winter nights as people enjoy the hot broth of eomuk (fish cake) to ease the freezing weather. People also like to spend their day while sipping a cup of tea, popularly served in the teahouses along the Insa-dong street. And every year at some places like City Hall and Olympic Park, the city provides an Ice Skating rink that everyone can enjoy. After all, it is a combination of indoor and outdoor activities to spend winter in Seoul.

While living in Korea, it is nice to experience the change season by season. Especially in Seoul, each season will give different atmospheres and excitement for the newcomer student. And it makes everyone want to stay all year long to enjoy all of the vibes of four seasons here.



"Fall in Gwanak Mountain"



"Snow on SNU Athletic Field"



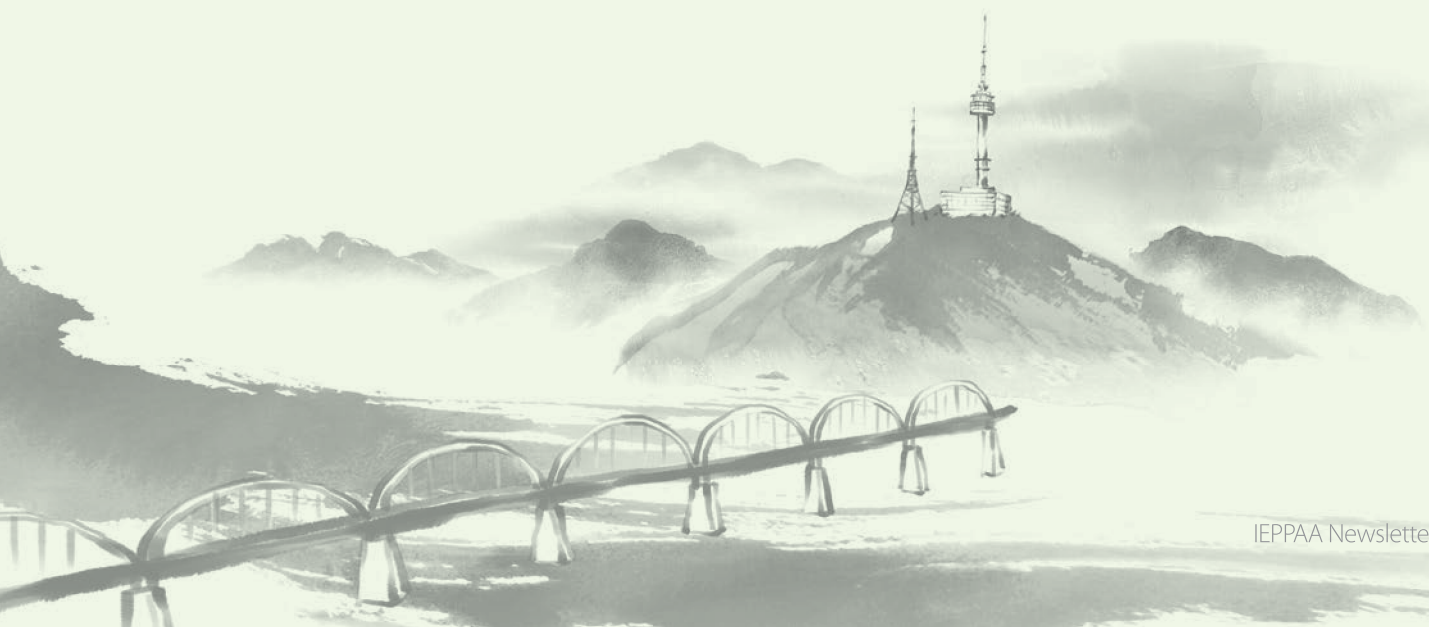
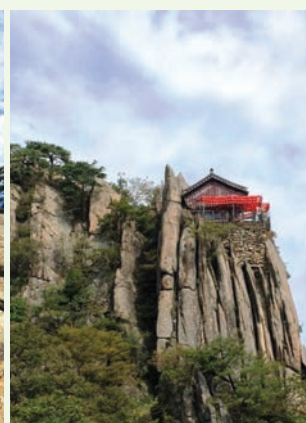
"Skate Rink in Olympic Park"



## Gwanak Mountain

South Korea is covered by mountains and among them is Gwanak Mountain which is a popular tourist attraction. It is located in the far southern end of Seoul. The mountain is a popular hiking destination that is easily accessible by public transportation and welcomes an average of five million visitors per year. The site was designated as a city park in 1968. The elevation of the mountain is over 600 metres above sea-level. Gwanaksan, as it is popularly known in Korean, means “a mountain of the hat-shaped peak”. Currently, it is referred to as “Gwanak” since “san” already contains the meaning of “mountain” in Korean language. Seoul National University is located just northwest of the mountain. The attractions of Gwanak Mountain which visitors can enjoy include the natural flow of streams, fresh air on the top of the mountain and doing meditation in nature while leisurely walking along the forest trail. The well-known temple called “Yeonjudae Hermitage” is located at the very top of the cliff. There are not many facilities on the mountain, although larger temples in the area may provide food during lunchtime, and there are vendors who sell snacks, drinks and various hiking equipment at the base of the mountain, and even further up along some of the trails. The mountain can get very crowded during the weekend, especially on warm, clear days.

Written by: Myo Thant Oo  
The Republic of the Union of Myanmar



# International Energy Policy Program -Current Students

Nationality	Name	Affiliation	Position	Program
Mongolia	Baatar, Chimedregzen	The Energy Regulatory Commission/ERC/of Mongolia	Foreign Relations and Cooperation specialist	Master
Mongolia	Erdenebat, Erdenetuya	The Energy Regulatory Commission/ERC/of Mongolia	Foreign Relations and Cooperation specialist	Master
Cambodia	Keo, Vichet	Department of Energy Development, General Department of Energy, Ministry of Mines and Energy	Vice-Chief Office	Master
Kenya	Nyawinda, Brian Otieno	The Kenya Nuclear Electricity Board, technical department	Research Assistant	Master
Indonesia	Rizka Devriyani	the Deirectorate General of New, Renewable Energy and Energyy Consesrvation, Ministy of Energy and Mineral Resources	New Renewable Energy Program Analyst	Master
Kazakhstan	Khazhina, Zulfiya Aituganovna	Dept: petrochemical industry developmen and technical regulation, Ministry: Energy	Expert	Master
Nigeria	Ofuonyebuzor, Matthew	Gas dept of Ministry of Petroleum Resources,	Chemistry Engineer	Master
Myanmar	Myo Thant Oo	Division: Policy and legal affairs, Minister's office Ministry: Electricity and energy	staff officer	Master
Indonesia	Frieski Maharta Wibawa	Ministry of Energy and Mineral Resources	planner in M&E division	Master
Indonesia	Fadolly Ardin	Ministry of Energy and Mineral Resources	Energy Security Analyst	Ph. D
Myanmar	Sei Thu Kyaw Kyaw	Ministry of Electricity and Energy	Assitant Director	Ph. D
Kenya	Mberia, Nancy Jepkemboi	Kenya Nuclear Electricity Board	Technical officer, Technica Affairs	Master
Indonesia	Etis Dwi Meilandari	Ministry of Energy and Mineral Resources	Program Analyst	Master
Kazakhstan	Kaliaskarov, Sergozha Maratovich	JSC National Energy Company	Head of Treasury	Master
Myanmar	Zune Zune Htet	Ministry of Electricity and Energy	officer	Master
Iran	Oryani, Bahare	Ministry of Industry Institute for Trade Studies & Research (ITSR)	Faculty Member	Ph.D
Kazakhstan	Amantay, Akbota	Research Committee of the supervisory board	Head manager	Ph.D



## IEPPAA website and email address

The IEPPAA website was launched on December 23, 2013. The website can be accessed through <http://ieppaa.snu.ac.kr>. Alumni are encouraged to sign up to the IEPPAA website so that we can keep and build our network wherever we are.

The IEPPAA officers can be contacted at [ieppaa@snu.ac.kr](mailto:ieppaa@snu.ac.kr).

## Tell us about you!

We wish to hear from you! IEPPAA is committed to staying connected with its alumni. Please send us news that is related to your professional or personal achievements so that we may include them in future newsletters. News items can be sent to [ieppaa@snu.ac.kr](mailto:ieppaa@snu.ac.kr)



Wish You a Prosperous life, Go! IEPP Alumni Association

**<http://ieppaa.snu.ac.kr>**



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