

Press Release

19 November 2019

Banpu joins Mahidol University in praising "Mangrove Triangle", a global warming and biodiversity protection innovation, the winning science project from "Power Green Camp 14"



Mrs. Udomlux Olam (front row, right), Head of Corporate Communications, Banpu Public Company Limited and Associate Professor Dr. Rattanawat Chaiyarat (front row, second from right) President of the 14th Power Green Camp, with the students who won first prize for their envi-science project.

The recently ended Power Green Camp 14 organized by Banpu Public Company Limited, a leading integrated energy solutions company in Asia-Pacific with a focus on social sustainability, and the Faculty of Environment and Resource Studies, Mahidol University on the theme "Empowering Youth to Fight Global Warming and Protect Biodiversity" was an unqualified success, bringing together seventy students majoring in Science in Grades 10 and 11 from all over Thailand. The camp, which ran about a week, was held in October at the Faculty of Environment and Resource Studies, Mahidol University. Students have the opportunity to learn about the effects of global warming having on living creatures together with coping guidelines as well as how to manage, protect and solve the issue. They also had a chance to brainstorm on ideas, creating an impressive environmental science projects that was exhibited and presented to the public.



This year, the seventy students split into groups for their envi-science projects, which focused on fighting global warming and protecting biodiversity. One outstanding project was **“Algae Change the World”**, which created artificial coral from the chloroplast found in chlorella mixed with proteins from silk thread and plastic waste to make a new habitat for aquatic animals and produce oxygen in the water. Another was the **“Sugar Cane Bioplast”**. The idea is to create bioplastic from sugar cane cellulose to increase value of sugar cane leaves, which are useless to farmers, and reduce the burning of the leaves before harvest, which is also a cause of air pollution and global warming.

The winning project was **“Save the Sea with Sea Waste”**, which invented the **“Mangrove Triangle”** to prevent coastal erosion as well as rehabilitate the shoreline and mangrove forest ecosystem which is one of the important ecosystems in Thailand. The structure is invented to triangle-shaped to reduce the impact of sea waves together with tangled footings resembling twisted mangrove roots to support a trunk and slow down water flows. It is made from plastic waste mixed with concrete to add value to plastic waste while reducing the amount of waste.

Mr. Kittiphoom Treesam or **N’Pee**, a Grade 10 student from Benchamaracharungsarit School, Chachoengsao Province, and the representative of the winning group said: “In my province, many mangrove forests have been severely affected by global warming and natural disasters. My friends and I chose this problem as the starting point for our group project and applied what we learned from the camp to develop our project. We intend to use the structure in a real situation if we had a chance.

Being able to participate in the Power Green Camp has broadened my horizons and made me recognize the importance of nature. I have also been able to improve my skills, not only in leadership, but also in creativity, communication and presentation. After this camp, I will live in the eco-friendliest way, and in the future, I want to be a businessman who takes nature and environment into consideration in everything I do.”



This year's highlights included a field trip to Khao Sam Roi Yot National Park, Prachuap Khiri Khan Province, one of richest sources of biodiversity in the country. The students also collected trash around the beach area to return it to a pristine state and learned how to sort out trash and its effect on environment. They also attended special panel discussion on the topic **"Fighting climate change to mitigate negative impacts on biodiversity"** run by speakers with proven work experience in the environmental field including **Mr. Wichien Chinnawong**, Chief of Thungyai Naresuan Wildlife Sanctuary.

Mrs. Udomlux Olarn, Head of Corporate Communications, Banpu Public Company Limited said: "This year we focused on encouraging young people to learn about the global problem of climate change so that they would be aware of its effects while also encouraging them to find solutions. We could see their love for nature as they participated in the activities and again in the way they brainstormed to develop various concept of envi-science projects from their systemic thinking and applied the knowledge they gained from camp. We believe that these youngsters will play an important role in pushing forward solutions to environmental problems and in making the world a better place."

The "Power Green Camp" is a corporate social responsibility project introduced by Banpu to underline its commitment to conducting business in a way that is friendlier to the environment and in line with the company's Greener strategy which follows the ESG (Environmental, Social, Governance) principle in doing sustainable business and making a long-term positive impact on society.

Associate Professor Dr. Rattanawat Chaiyarat, Director of Wildlife and Plant Research Center, and Natural History Museum, Faculty of Environment and Resource Studies, Mahidol University added: "It is important to empower young people to understand the linkage of climate change and its effects on living plants, animals and human beings. Every activity in the camp taught them to think systemically and link their knowledge to gain a thorough understanding of the problem, as well as bringing environmental science knowledge to sustainably manage and solve the global warming problem in the context of their homeland to make positive impacts on their community and country.

Students interested in the Power Green Camp can visit www.facebook.com/powergreencamp or call 0 2441 5000 ext. 2112 for more information.

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Additional Photos



Mrs. Udomlux Olarn, Head of Corporate Communications, Banpu Public Company Limited



Associate Professor Rattanawat Chaiyarat, Director of Wildlife and Plant Research Center, and Natural History Museum, Faculty of Environment and Resource Studies, Mahidol University and President of the 14th Power Green Camp



Students learn about "The risk of biodiversity loss from climate change" at Sam Roi Yot Freshwater Marsh, Prachuap Khiri Khan Province



Students participate in "The adaptation of wildlife to climate change" activity



Students collect garbage at Suan Son Pradiphat Beach, Prachuap Khiri Khan Province
and learn how to sort out trash and its effect on the environment



Speakers in the panel discussion on the topic “Fighting climate change to mitigate negative impacts on biodiversity” and managements from Banpu and Mahidol University

From left to right:

- Associate Professor Dr. Singhanat Nomnian, moderator
- Mr. Wichien Chinnawong, Thungyai Naresuan Wildlife Sanctuary Chief
- Dr. Prinya Putthapiban, Lecturer of Department of Geology, Mahidol University Kanchanaburi campus
- Mrs. Udomlux Olarn, Head of Corporate Communications, Banpu Public Company Limited
- Associate Professor Dr. Rattanawat Chaiyarat, Director of Wildlife and Plant Research Center, and Natural History Museum, Faculty of Environment and Resource Studies, Mahidol University and President of the 14th Power Green Camp
- Mr. Wichian Art-Ong, Chairman of the Network Executive Committee of CSR-DIW
- Dr. Chairat Burana, Lecturer, Faculty of Innovative Agriculture Management, Panyapiwat Institute of Management



Mr. Wichien Chinnawong, Thungyai Naresuan Wildlife Sanctuary Chief, one of the speakers on the subject “Fighting climate change to mitigate negative impacts on biodiversity”



Mr. Kittiphoom Treesam or N'Pee, Grade 10 student at Bencharacharungsarit School, Chachoengsao Province, and the representative of winning envi-science group project "Save the Sea with Sea Waste" that invented the "Mangrove Triangle"



A model of the "Mangrove Triangle"



Students from the Green, Pink and Blue envi-science group projects and their models

Algae Change the World, Sustainable Shrimp Farm and Sugar Cane Bioplast

About Power Green Camp

The Power Green Camp was established in 2006 through a collaboration between the Faculty of Environment and Resource Studies, Mahidol University, and Banpu Public Company Limited under the concept "Environmental Science – Learning Through Action". The camp aims to equip high-school students with knowledge about environmental science and implant environmental awareness in the youths as well as the ability to apply environmental science logically in real life. The camp also creates young environmental leaders and networks and targets Grades 10 and 11 science-program students nationwide.

About Banpu Public Company Limited

Banpu Public Company Limited is a leading integrated energy solutions company in the Asia Pacific operating three core groups of businesses – energy resources, energy generation, and energy technology – in ten countries: Thailand, Indonesia, China, Australia, Lao PDR, Mongolia, Singapore, Japan, the United States of America and Vietnam.



"Learning is the Power of Change and Development"

Banpu's CSR and other social-oriented activities are based on the firm belief that "learning is the power of change and development" for people and society by emphasizing the promotion and development of continued "learning" among young people and communities in a number of ways. Banpu supports sustainable development of communities and society through a variety of learning opportunities for both individuals and teams, ranging from daily real-life experiences both in- and outside the classroom, to hands-on practice that enhances capabilities and skills.

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