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# Report for the excursion of the 3rd FOLENS International Symposium (Iida and Ina City)

The objective of this Sustainable Energy trip was to study various kind of local energy consumption with their respective renewable energy sources. Renewable energy is eco-friendly energy devoid of the problems of resource depletion. On the way to Iida city I got some lectures from the FOLENS and TUAT teachers. Moreover I got knowledge from some volunteer students' presentation on the bus about the Biomass Utilization and Heat Pump system. From the lectures of teachers I gained background knowledge of Ida city as a sustainable city by the enthusiasm of the local citizens. And then I have been lectured by FOLENS teachers about the basic knowledge of the renewable energy and geothermal generation which is going on in Japan. These all of lectures and presentation were very effective for me to study about the local renewable energy generation system in Iida and Ina city.

In Ohisama Shinpo Energy Corporation I got great lecture from president Mr. Akihiro Hara. This is first time for me to study practically about the solar power generation system. I have ever had knowledge about we can use solar power for electricity by changing energy system as renewable energy. But this is just literature and I couldn't imagine how they can run practically. According to the lecture of Mr. Akihiro Hara I got great skills such as they started by NPO and their aims are to expand local energy production for the local consumption. The most amazingly one is they could start first Ohisama power station funded by local people. I got the fact about that they introduced other branches of Ohisama fund and zero yen system. At here I am very interested in working for Ohisama zero yen system as long term system. After 10 years, the PV system will be transferred to the house owner who installed this system on their roof. So the owner can get all income from electricity sales. After that I learned practically energy saving practices.

By visiting to Sakura farm, I saw how they are using the bed wastes. I think Japan is cold weather nearly the whole year so it is difficult to grow mushroom successfully by natural condition. So this heating generation system is very effective for growing mushroom. I studied there how is heat generation system working by using wastes products and how they manage growing mushroom.

When I arrived to Sangitei hotel, I learned about the heat pump system which is generating by using the overflow hot spring water and wood wastes. For me it is also very informative because of I am doing research relationship with the Ground Source Heat Pump system.

Next day I visited to Kanae Mitsuba Nursery for studying solar panels installed at a public facility. By installing renewable energy system as "Sanpo-chan" in nursery place, I think it is very good idea not only for present time but also for the future generation awareness. I heard that some children from this nursery got knowledge for saving energy and renewable energy system. I would like to appreciate for this idea to aware eco-conscious of children by using "Sanpo-chan" in nursery.

Nanshin Biomass Cooperative where we visited is also a local business promoting wood pallets utilizing thinned woods as an alternative energy source. This is a kind of work to produce from garbage to gold. But for this project one of the exceptions is the cost of stove and transportation. But it has good opportunity for environmental safety by CO2 neutralization and less toxicity.

After this place we went to Ina city for studying the hydro power generating system. Local community group owned and managed Hasenakayama community micro hydro power station. I was very surprised by the enthusiasm of Inadani natural energy study group. They explained about how they use the flowing water from the higher place to lower place.

Finally we arrived to the Mibugawa small scale hydro power station. I saw some of the hydro power generating facilities. Hydroelectric power generation is the method of generating electricity that has the least amount of CO2 emissions. I got the new knowledge about the water right from this group explanation.

The knowledge gained from this trip is invaluable, especially in the aspect of organizing future renewable energy utilization and energy saving system. Moreover, we got good experiences from this trip because of we visited together with international professors. All of these opportunities can improve me to become as a good environmental leader.