

WBA China Study Mission

Summary

World Bioenergy Association invites the board members and members to participate in an exciting study mission to Changchun during November 25th – 28th 2018. The event is co – organized with our branch office in China and Great Resources. The study mission includes study trips to state of art bioenergy installations in Changchun. These are followed by a 1-day seminar with presentations from representatives of WBA and local companies, policy makers and researchers.

A WBA Board Meeting is scheduled for 26th November 2018, 18.30 – 20.00 (Changchun Time) in Changchun, China.

Accommodation will be pre-booked at South Lake Hotel by the organizers. Please intimate your schedule to WBA at the earliest.

Agenda

Date	Time	Activity
25 – 11 (Sunday)	-	Arrival to Changchun (CGQ). Check in Hotel
26 – 11 (Monday)	09.00 – 18.00	Study Visits (Description below)
	18.30 – 20.00	WBA Board Meeting 44
27 – 11 (Tuesday)	08.30 – 11.30	First Bio based Economy Forum
	14.30 – 18.00	First Bio based Economy (Sub – Forum)
28 – 11 (Wednesday)		Study Visit/Sightseeing
29 – 11 (Thursday)	-	End of WBA Mission. Departure from Changchun

Study Visits

Study Visit 1: First Auto Work (FAW) (Supplying bioheat to industrial user)

Changchun is home to China’s first automobile workshop--FAW.

There are six veteran hot water boilers that had long been installed in FAW, which supplying heat to an area of over two million square meters. Since its operation, the system had shown problem of high emission and low efficiency which is commonly seen in grate boilers.

Great Resources had successfully reconstructed the system into a biomass boiler. Since its operation in 2015, the system had been put in use for three consecutive years stably and completely meet the requirement. The new system consumes 621 tons of fuel on daily basis, with peak consumption reach 1,100 tons per at a single day. The successful transformation has reduced the emission of sulfur dioxide to almost zero, and the reduction of NOx

emission is over 50%. The significant emission reduction shows that the new system brings about benefit to the environment. The shift from fossil fuel to biomass is not only a milestone in the development of bioenergy, but also a significant event for biom-heat industry in China.

Study Visit 2: Changsheng Pharmaceuticals

(conversion of coal fired boiler to biomass boiler and supplying steam)

Changsheng was founded in 18 Aug 1992, which is a high-tech company recognized by China national science and technology committee. Its business range covers research, production and sales of biological products, with diagnostic reagents, biological reagents and biochemical drugs as its main products.

The six boilers of 5 tons capacity installed previously failed to meet the demand in production and environment protection. In Jan 2017, an agreement was signed between Great Resources and Changsheng for supplying biomass steam. The preliminary demand is more than 50,000 tons of steam, and the consumption is expected to exceed 80,000 tons. The demand in 2018 is around 300,000 tons.

Study Visit 3: Multi-generation technology (Cogeneration of cooling, heat, power, steam and fertilizer) in Pharmaceutical Industrial Park

Panshi Pharmpharmaceutical Industrial Park is home to more than 20 drug producers of Panshi City. 15 drug producers need steam. The annual demand of steam is 115000 tons. A phase II project that sets to supply steam to Xiuzheng and Zixin, which are two giant drug producers in Oct 2018 will consume 300,000 tons of steam annually. The pressure of the steam is between 0.4 - 0.8 Mpa. The demand is stable and will increase further. In addition to the above mentioned companies who need steam, there are some other companies who only need heat. The total heating area is 510,000 square meters, among of which, the area of office and apartment is 150,000 square meters.

Great Resources is obliged to supply bio-steam to the users in the Park via two boilers with capacity of 35 tons/h in Phase I construction according to the Agreement signed with Panshi Municipal government. Multi-generation technology will be installed in phase II construction. Electricity will be generated by the end of 2018.

Study Visit 4: Supplying bioheat to Vocational Education Park

The park is located in Northern part of Jilin City, with heating area up to 960,000 square meters. In Mar 2018, there were 10 vocational schools settled in the Park and made the number of students and teachers in the Park exceed 25,000. Great Resources ' winning of bid over other rivals in Sep 2016 had enabled it to supplying heat by using straw feedstock. A piece of 4 hectares of land was also approved. The project has been issued with a license by local government of Jilin on 25 Oct 2017 which marked the start of heat supply. The success of the project is of great important for the handling of agricultural wastes and replacement of coal.

Study Visit 5: Center for testing quality of biomass pellet and monitoring of biomass boiler emission

Guoyuan is jointly owned by Great Resources and Jilin Energy Research Institute, it is China's first testing center with independent legal qualification that can test the quality of biomass pellet and monitor the emission of biomass boilers. The Center now has 9 employees and is well equipped with a variety of instruments and devices. All the measuring instruments are calibrated by quality authority.

First Bio based Economy Forum

Date: 27 Nov

Place: Changchun, China

Organizers/Co-organizers

Commerce Department of Jilin Province

World Bioenergy Association (WBA)

Jilin Great Resources New Energy

Participants & Strategic Partners

- WBA (WBA delegation headed with President Remigijus Lapinskas) ;
- Department of Thermal Engineering, Tsinghua University (Mr. Ni Weidou who is academician of Chinese Academy of Sciences and his researchers team);
- Beijing Sansheng Institute on Environmental Development (Pro. Ye Wenhui and his researchers team);
- China Agricultural University (academician Mr. Shi Yuanchun and his researchers team);
- Former Director of Department of Science & Technology, Agricultural Ministry of China (Pro. Cheng Xu);
- Institute of Thermal Physics, Chinese Academy of Sciences (Pro. Jin Hongguang and his team);
- Commerce Department of Jilin Province;
- Development & Reform Committee of Jilin Province
- Department of Industry & Information Technology, Jilin Province;
- Environment Protection Department, Jilin Province.
- Sciences & Technology Department, Jilin Province.
- Agricultural Department, Jilin Province
- Forestry Administration, Jilin Province
- Special Equipment Department of Quality Inspection Bureau, Jilin Province
- Forestry Planning and Design Institute, Jilin Province
- Jilin University
- Northeast Electric Power University, China
- Quality Inspection Institute, Jilin Province
- Energy Institute, Jilin Province
- Bioheat Association, Jilin Province
- Biomass Utilization Committee of Environment Protection Industry Association, Jilin Province

Agenda (to be confirmed)

Date		Activities
27 Nov Main forum	8:00-9:00	sign-in, exchange of business card
	9:00-9:05	Introduction of participants Opening speech from organizers Hong Hao, Chairman of Great Resources
	9:05-9:25	Speech: Ecological civilization & Green development Speaker: Ye Wenhui
	9:25-9:45	Speech: Biobased economy Speaker: WBA expert (any recommendation ?)
	9:45-10:05	Speech : The development of world biomass energy Speaker: Remigijus Lapinskas, WBA President.
	10:05-10:25	Speech : China's energy strategy Ni Weidou, academician of Chinese Academy of Sciences, Department of Thermal Engineering, Tsinghua University
	10:25-10:45	Speech : Two Mountains theory Hong Hao, WBA Vice President.
	10:45-11:05	Speech : Technology of distributed and complementary energy supply Jin Hongguang, Institute of Thermal Physics, Chinese Academy of Sciences
	11:05-11:25	Speech : Green Finance Ted Elvhage, Chairman of the Board, Keiretsu Forum Nordics
	11:25-11:45	Speech : Interpretation of China's biomass policy Zhou Fengqi, Former Director of Energy Institute of National Development & Reform Commission
11:45-12:05	Speech : Interpretation of biomass industry policy Cheng Xu, Former Director of Department of Science & Technology, Agricultural Ministry of China.	
27 Nov	12:10-13:10	Buffet
	13:10-13:30	Video play

Date		Activities
Sub-forum (run in parallel)	13:30-17:00	Speech : Green Finance and investment Speakers : Ted Elvhage Li Dongqi
	13:30-17:00	Speech: Research and secondary innovation Speakers : Jin Hongguang Institute of Thermal Physics, Chinese Academy of Sciences Anders, Bioendev CTO
	13:30-17:00	Speech : Green Energy- a possibility for industry zone. Speakers : Lars, BioSteam General Manager Hong Hao, Chairman of Great Resources
	13:30-17:00	Speech : Conversion of biomass resources into energy Speakers : Annika HSAB General Manager Chinese Grassland Society
	13:30-17:00	Speech : Standard of biomass industry Speakers : Belgium experts Institute of Water Resources and Hydropower.
	17:05-17:35	Photo taking

Please note that this agenda is not a final one, it is only a outline, we will start to contact the speakers for confirmation of their speech.

IV Participants

Government officers, Energy administration at each level, industry associations, research institutes, biomass pelles manufacturers, biomass raw material suppliers, commercial users, industrial users, investors, testing institue, universities, news media, etc.