

# 1st Bio Based Economy Forum

25 Nov (Sun) 9: 00-24: 00 Arrival & Registration		
18: 00 Reception Dinner (Liyang Hotel)		
26 Nov (Mon) 8: 30-16: 30 Study visits		
Time	Activity	
8:30	Study Visit 1: First Auto Work (FAW) (gathering at 8:30 at lobby of main building, South Lake Hotel.	
10: 00	Study Visit 2: Multi-generation technology	
12: 00	Lunch at Panshi City	
13: 30	Study Visit 3: Supplying bioheat to Vocational Education Park	
15: 30	Study Visit 4: Jilin Fuel Ethanol (JFE) (biofuel)	
18: 00	Buffet at South Lake Hotel	
27 Nov (Tue) Main forum 8: 30-17: 30 Meeting venue: Hall 1#, Chunxiao, 1 <sup>st</sup> floor, main building, South Lake Hotel		
Time	Speech	Speaker
Anchorperson: Hong Hao, Vice President of WBA, Vice Chairman of CNECC, Director of Biomass Committee.		
8:00	Participants registration	venue: Hall 1#, Chunxiao, 1st floor, main building, South Lake Hotel.
8:30	Opening ceremony, opening remarks from Wang Zhiwei, Director of Commerce Dept of Jilin Province.	
8:35	Address by Remigijus Lapinskas, WBA President.	
8:40	Paris Agreement and Shifting from Fossil Power.	Ni Weidou, academician of Chinese Academy of Sciences, Department of Thermal Energy, Tsinghua University.
8:55	The Development of World Bioenergy	Remigijus Lapinskas, President of World Bioenergy Association (WBA).
9:10	Study on Policy of Clean Heating	Wu Yin, Former Director of China National Energy Administration, consultant of the State Council.
9:25	Bioeconomy	Jean Marc Jossart, Executive Secretary, Bioenergy Europe
9:40	The Concrete Conditions to Develop Biomass Industry in China.	Shi Yuanchun, Academician of Chinese Academy of Sciences, former director of China Agriculture University. Cheng Xu, former Director of Department of Science & Technology Division, Agricultural Ministry of China.
9:55	Tea Break	
10:15	To develop bioenergy for tackling climate change	Zhou Fengqi, Former Director of Energy Institute of National Development & Reform Commission
10:30	Green Energy-Technology & Equipment	Johan Lilliehook, Director of Business Development, Bioendev.
10:45	Study on China' s Bioheat Industry.	Hong Hao, WBA Vice President, Vice Chairman of CNECC, Director of Biomass Committee.
11:00	Ceremony (1) China-Nordic Bio-energy Investment Fund Kick-off ceremony.	

	(2) Signing ceremony between Great Resources and Changchun Heat Supply;	
11:10	Panel Discussion: Investment in Clean Energy--New Trend.	<p>Guests:</p> <p>Miao Zhongyou, Deputy Director of Financial Supervision and Administration Bureau of Jilin.</p> <p>Tai Ge, Chairman of Jilin Trust.</p> <p>Wang Weidong, Vice General Manager, Jilin Equity Investment.</p> <p>Ye Peng, Chairman, Changchun State Owned Capital Investment and Operating.</p> <p>Chen Lisan, Chairman, Changchun Huize Investment.</p> <p>Lu Changfu, Founding partner of Spright Capital, member of Biomass Committee, CNECC.</p>
12:00	Summary and anticipation of activity in afternoon; lunch and rest.	Buffet at 1 <sup>st</sup> floor, Main Hall, South Lake Hotel
13:10	Video Play	
P.M 27 Nov Meeting venue: Hall 1#, Chunxiao, 1st floor, main building, South Lake Hotel		
Anchorman: Yu Jiaqing, Secretary General of Biomass Committee, CNECC		
13:30	From New Energy to Energy Revolution.	Yang Jinfu, Professor of Thermal Physics Institute, Chinese Academy of Science.
13:45	Fluegas Condensing and Hot Water Thermal Energy Storage	Bernt Andersson, Chairman China Chapter, Sweheat& cooling.
14:00	Biomass Energy--From a Perspective of Regional Energy Strategy	Ma Linwei, Associate professor, thermal engineering department, Tsinghua University
14:15	Pioneer of Green Energy Award	<p>Handout by:</p> <p>Remigijus Lapinskas</p> <p>Jean Marc Jossart</p> <p>Bharadwaj Kummamuru Venkata</p> <p>Hong Hao</p>
15:10	Tea Break	
15:30	Biomass Energy--Overlooked Giant	Lu Changfu, Founding Partner of Spright Capital.
15:45	Introduction of projects	<p>Projects to be recommended by government authorities;</p> <p>Henrik, PhoenixBioPower.</p> <p>Johan Lilliehook, Bioendev.</p>
17:00	Photo taking	
17:30	Banquet	South Lake Hotel

### 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 NO<sub>x</sub> 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: 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 3: 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 4: Jilin Fuel Ethanol (JFE) (biofuel)

Jilin Fuel Ethanol is China's first giant fuel ethanol producer approved by Chinese government, it is also one of the biggest players in corn-based biochemical industry and bioenergy supplier in China and Asia. It was founded in 19 Sep 2001, with 1.2 billion Yuan of registered capital. Its three shareholders are: China National Petroleum Corporation (CNPC) (55%), Jilin Foodstuffs (25%), China Oil And Foodstuffs Corporation (COFCO) (20%). Jilin Fuel Ethanol is located in Jilin City, and covers an area of 140 hectares. The birth of JFE could be traced back to China's 10th Five-Year Plan which aims to set up a demo project in Jilin that can produce 600000 tons of fuel ethanol annually. The first production line was put in use on 22 Sep 2001. The whole project construction was concluded on 31 Aug 2003.

Key figures of today JFE :

fuel ethanol 500000 tons/year

distillers dried grains with soluble (DDGS) 430000 tons/year

maize oil 22500 tons/year

ethyl acetate 50000 tons/year

Consumption of corn raw material 1.65 million tons/year