

# COMBAT CLIMATE CHANGE WITH BAYANNUR

An innovative optimization of tax equity financing for biomass projects

Ω OMEGA



## The Opportunity

China's impressive economic expansion has been powered by cheap coal and other polluting forms of manufacturing. Due to the sheer size of the country and its population, China is the biggest global contributor to CO<sub>2</sub> emissions and climate change. The carbon-intensive economy has resulted in a large portion of the population suffering the health consequences of living in an extremely high average air quality index (AQI). On a global scale, long-term exposure to outdoor air pollution is responsible for 4.2 million deaths, according to the World Health Organization.

In the past 40 years, GDP growth has been the emphasis of China's economic policy, but in recent years there has been a major shift. Since the 12th & 13th Five-Year Plan, there has been a strong policy push which includes a range of new financial instruments to greenify the energy industry. With the United States backing out of the Paris Accords, China has the opportunity to become the leader in green energy.

### Why Bayannur?

Bayannur, an agricultural village in Inner Mongolia, China is the perfect place not only for creating a circular economy but also for maximizing an environmental impact due to:

- » Abundant raw materials for biomass plants from agricultural and animal husbandry farms
- » Estimated IRR of tax equity investor at 11.51% and 7.03% for the developer
- » One of China's green program project areas
- » Yellow River irrigation area

- CO<sub>2</sub>** Reduce CO<sub>2</sub> emissions by **52,449 tons/year**
- NO<sub>x</sub>** Reduce nitrogen loss by **850 tons/year**
- Reduce waste by **20,980 tons/year**



## Key Details

Total Investment Size	\$13.21 Million
Tax Equity Investment Size	\$4.16 Million
Vehicle 01, 02, 03	Tax equity, World Bank Loan, Government grant
Time Horizon: Tax Equity	6 years
Time Horizon: WB Loan	15 years
Target Returns: Tax Equity	11.51%
Target Returns: Developer	7.03%
Partners	City of Bayannur
Geography	Bayannur, Inner Mongolia, China
Target Investors	Banks, insurance companies, utility affiliates, any investor who has large enough taxable income
Fees and Incentives	1.5%

## The Proposal

Omega proposes a combination of tax equity and circular economy to finance the project:

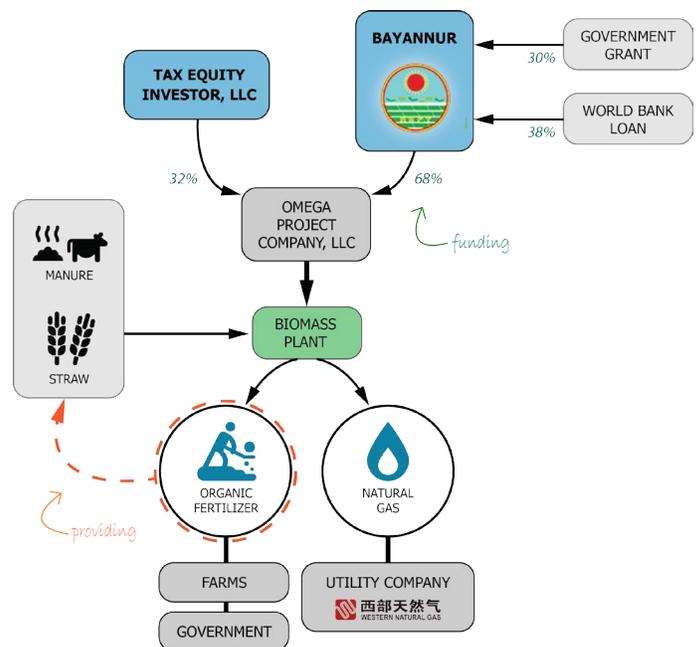
### 1 Tax Equity

Passive ownership interest in an asset, project, or development where the tax equity investor receives a return through both the cash flow as well as the income tax benefits (tax credits and tax deductions).

### 2 Circular Economy

Due to its unique agricultural and export-oriented community structure we are able to create a network of multiple circular economies. Firstly, nearby farmers provide the resources for the biomass plants which reduces transportation cost. These resources are then processed and converted into energy in the form of natural gas as well as organic fertilizer. The natural gas is taken off by China Western, the local utility SOE. Finally, the organic fertilizer is sold at a discount to the local farmers who provided the resources as well as other farmers nearby at full price.

### The Financial Vehicle



\*Biomass products are sold to other green projects and local entities/firms in Bayannur

	Tax Equity	Developer
Pre-Buyout	Cash 2%	Cash 98%
	Tax Benefit 80%	Tax Benefit 20%

### Tax Equity

1. Tax equity provides 32% of capital for purchase of equipment
2. Project company (Partnership LLC) builds the biofuel plant
3. Project company sells natural gas to natural gas company (China Western) and organic fertilizers to farms and government
4. Project company distributes most of tax credits and tax deductions to tax equity (80%). Also, 2% of total cash generated will be distributed to tax equity investors
5. After 6 years, developer will buyout the shares of tax equity investors at 10% of their initial investment

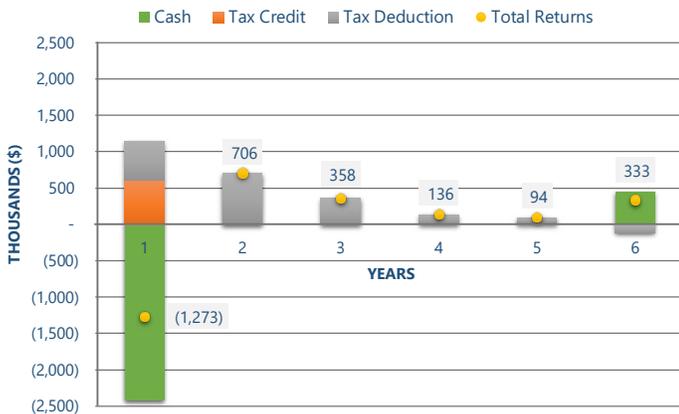
### Developer – Bayannur

1. Bayannur provides 68% of the funding for the partnership
2. 30% is through government grants
3. 38% is through a world bank loan at 2.5% interest rate
4. Bayannur government will actively manage the project through the Omega project company
5. The project will return a 7.03% IRR after yearly interest and principal payments to the World Bank
6. Pre-buyout, the developer receives 98% of the cash distributions and 20% of the tax benefits

## Financial Returns and Cash Flow

\*Cashflow profile varies, depending on various factors and is for illustrative purposes. For more information, please contact the Omega team.

### Projected Cash Flow to Tax Equity Investors



### ASSUMPTIONS

- » General: Inflation rate 2.5%
- » Period: 20 years + 1 year of construction
- » Growth rate net revenue: 5%
- » Tax exemptions:
  - VAT, construction, educational, income
  - 100% first 3 years, 50% following 3 years
- » Project is eligible for 10% investment tax credit

## Investment Appeal

### Tax Equity

- » Lower EBITDA and reduced future tax liabilities
- » No long-term ownership required
- » Low risk investment since tax benefits do not come from revenue but from fixed assets such as equipment for biomass plants
- » Worst case scenario for sponsor is a delay in the buyout due to lower than expected returns from project
- » Proven concept with 9-15% returns in the United States

### World Bank Loan

- » Already in talks with Bayannur for a loan at low cost
- » Can easily be replaced for other projects by either Tax Equity or another form of funding
- » Can be replaced by other needs of funding depending on the project needs

### Government Funding

- » Government backing and has personal incentives for the project to succeed

### METRICS

Combat climate change:

- » CO<sub>2</sub> emissions reductions
- » Loss of nitrogen and phosphorous reduction
- » Use of agricultural waste (manure and sunflower straws)

## Risks, Mitigation, and Due Diligence

Risk	Mitigation
<b>Governance &amp; Polices</b>	<ul style="list-style-type: none"> <li>• Credit enhancement in the form of guarantees by Inner Mongolia Agricultural and Animal Husbandry Financing</li> <li>• Independent oversight institutions in collaboration with PBOC</li> </ul>
<b>Jurisdictional Approval</b>	<ul style="list-style-type: none"> <li>• Positive feedback from Bayannur government as well as their financial and legal advisor</li> <li>• Focus on partnership with local government</li> </ul>
<b>Low Return</b>	<ul style="list-style-type: none"> <li>• Tax equity is a relatively low risk investment</li> <li>• Partnership buyout gets postponed</li> </ul>
<b>Low Market Demand</b>	<ul style="list-style-type: none"> <li>• Strong drive of Chinese government regarding green development, started implementing plans to fully replace fertilizer by organic fertilizer</li> <li>• Government is an off-taker in the form of subsidies</li> <li>• Local demand within 1-100 km is high</li> </ul>
<b>High Operating Expenses</b>	<ul style="list-style-type: none"> <li>• Transportation railway is being constructed</li> <li>• Proximity of the Yellow River</li> <li>• Existing elaborate highway system, factories are being constructed at critical intersection of farmland and transportation routes</li> </ul>

## Environment and Social Impacts

- » Reduce CO<sub>2</sub> emission by 52,449 tons per year
- » Reduce NO<sub>x</sub> emission by 850 tons and phosphorus by 755 tons per year
- » Reduce agriculture waste by 20,980 tons per year
- » Job creation: biomass plant employees as well as those companies that needed for collection of raw material

### SCALABILITY

- » The project has strong scalability in China since there is a strong policy push (13th Five-Year Plan) for biomass energy. Chinese government aims to increase the proportion of biomass energy to 15% (30 GW), and China is only using 5% of its biomass potential
- » It can first be scaled to different cities in Inner Mongolia, later, different provinces in China and, finally, to different countries that have tax credit systems in place
- » The vehicle is flexible in its individual component. It could be used for other renewable energy projects where equipment cost consists most partly of the total investment, and tax equity could be combined with other financial instruments

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