



## Executive Summary

### “BioFuel Holding”



## PROJECT IDEA

The Project idea is to establish BioFuel Holding that would develop few bioethanol plants in Ukraine in accordance with the zero-waste concept.

The zero-waste concept supposes that the wastes of bioethanol production are proceeded in biogas station where they are transformed in biofertilizers and also biogas is produced. Biogas is used for heat and electricity generation. Also CO<sub>2</sub> is absorbed and used in greenhouses and for algae growth.

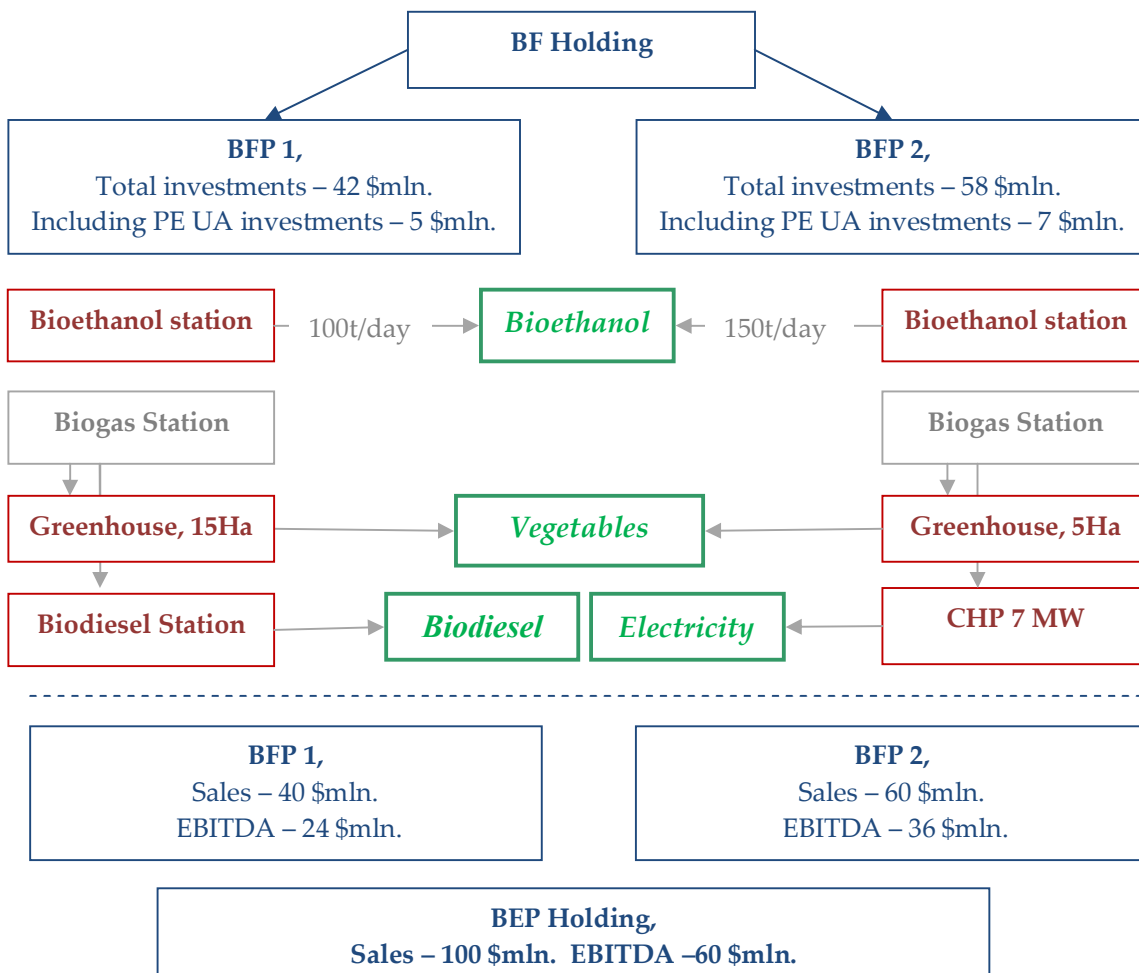
Currently the Private Equity UA Group is developing two sites:

- ~ BioFuel Park 1 (BFP 1), 100 t/day of bioethanol.
- ~ BioFuel Park 2 (BFP 2), 150 t/day of bioethanol.

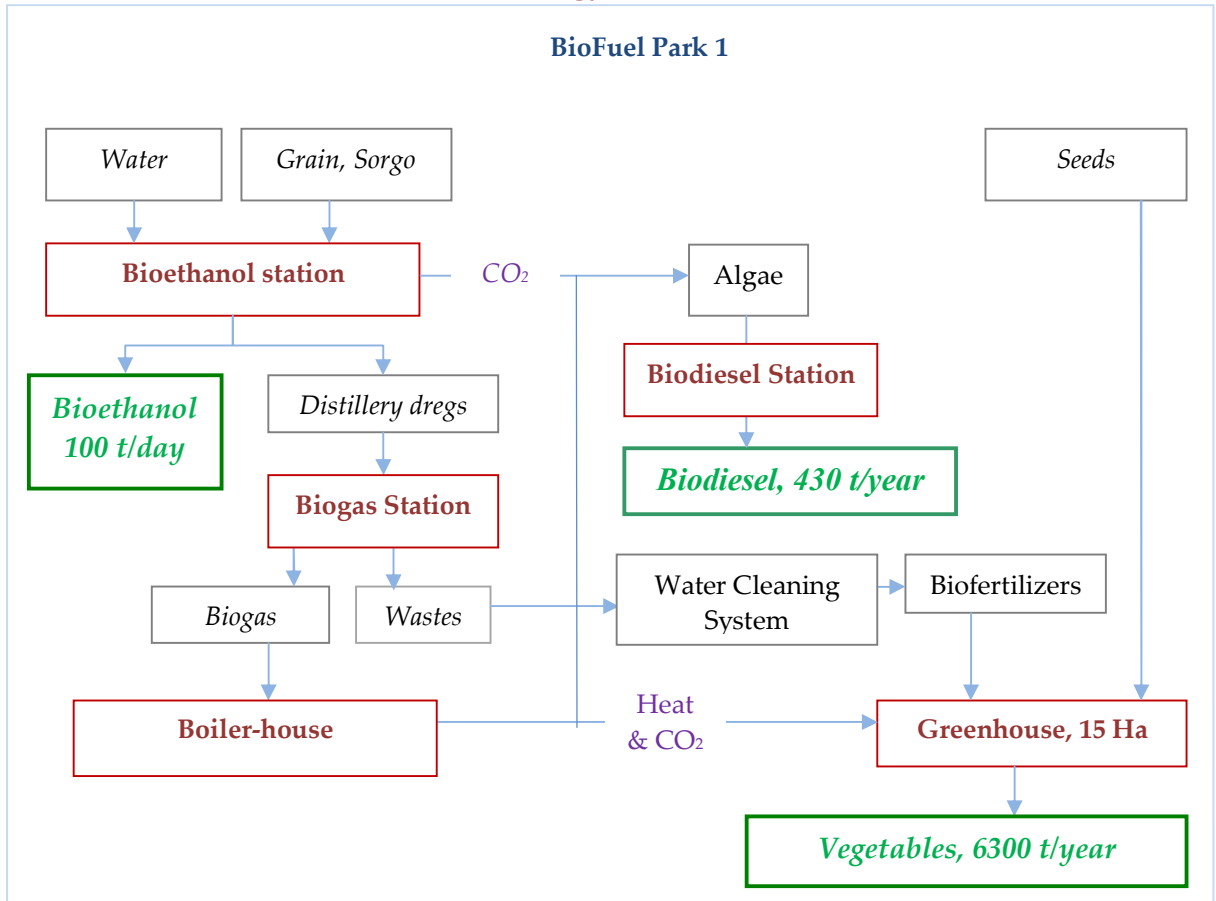
The core in both projects is the same – bioethanol production with biogas systems for waste proceeding. But also there are few differences between the Projects:

- ~ BFP 1 is using biogas for 100% heat production that is used in 15 Ha greenhouses that are already at place and small part of heat is used for algae growing for biodiesel production.
- ~ BFP 2 use biogas for combined heat and electric power (CHP) production. Heat is used for smaller Greenhouse and electricity is sold to the market.

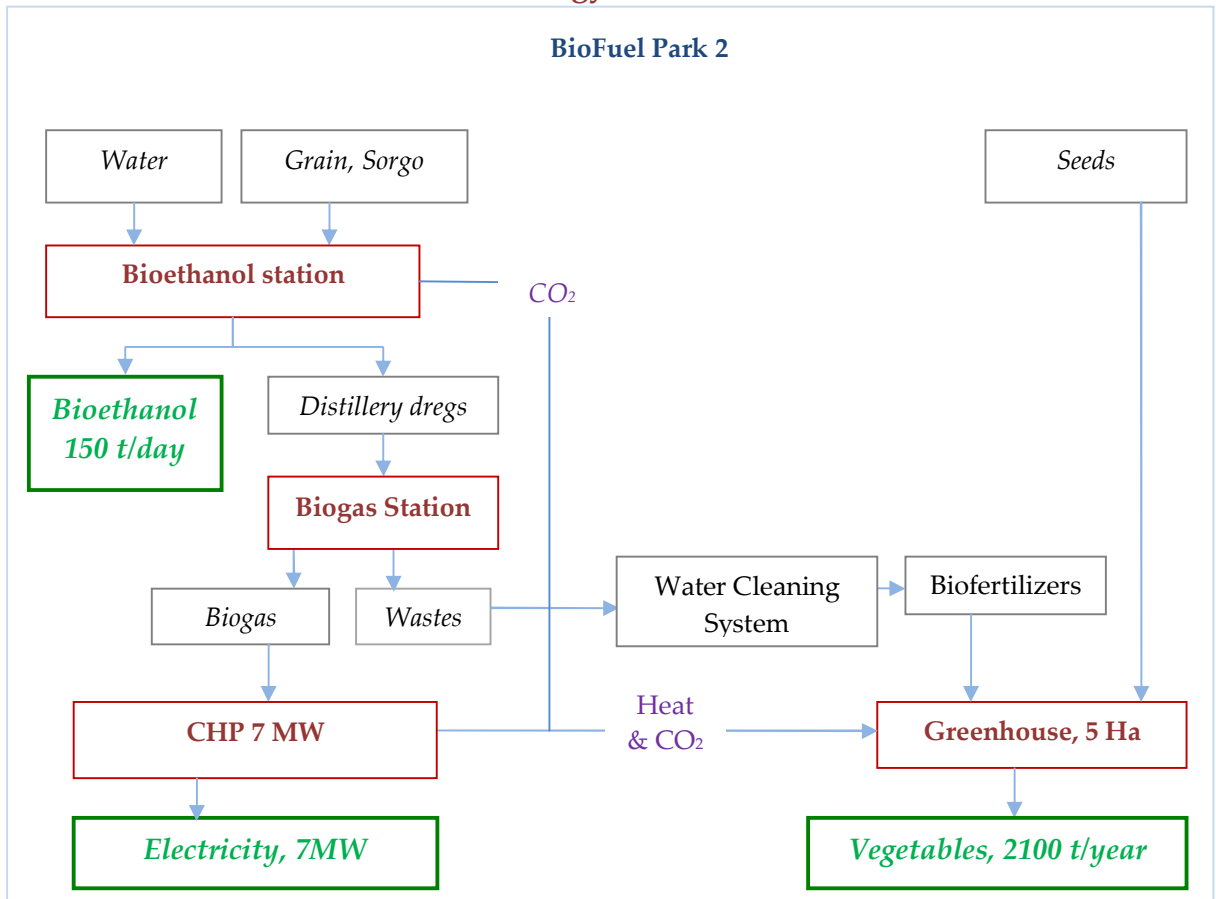
### Technology scheme of the BF Holding



### Detailed technology scheme of the BFP 1



### Detailed technology scheme of the BFP 2



## MARKET BACKGROUNDS

### *Bioethanol, biodiesel:*

- ~ 10% bioethanol reduces harmful emissions of gasoline by 50%, which was the basis of the active introduction of bioethanol in developed countries, especially the EU.
- ~ Rising prices for traditional fuels allows producing biofuel with a relatively high profitability even without the state support programs.
- ~ Biodiesel-from-algae is one of the most advanced technologies in the world. Only dozen companies have such technology proven. The technology which is planned to use was set up by the initiators and is already running more than a year in laboratory conditions.

### *Greenhouse vegetables and fruits:*

- ~ Ukraine annually witnesses seasonal shortage of fruit and vegetables in the winter and spring period, therefore the prices of these products to grow by 2-3 times.
- ~ The proposed project has very favorable geographical position that allows growing very early greenhouse products.
- ~ Since heat costs dominate the cost structure of greenhouses, in combination with other elements of the project involving the production of cheap thermal energy, our greenhouse complex will be much more cost-effective than its analogues.

### *Electricity:*

- ~ Adopted "green tariff" guarantees stable distribution of electricity produced by clean technology.
- ~ Stable dynamics of prices for electricity, which overrides the negative impact of financial crisis, gives the right to expect a stable cash flow in the future.
- ~ Good export prospects.

Also the Project applies for Emission reduction units (ERU) in accordance to Kyoto protocol. But this opportunity is not calculated in the financial plans and is considered as bonus.

## MANAGEMENT

The Project is developed by the *Private Equity UA* investment group and group of technical specialists that are working with biofuel for more than 3 years.

The *Private Equity UA* investment group was found in 2008 and is focused on start-up projects development in agriculture, biofuel and hi-tech.

The group unites highly qualified professionals who aim to create accomplished business that would outperform all local analogues and would be in line with the best counterparts in the world. In our projects we use the latest hi-tech innovations getting this way the best possible quality that results in the highest returns.

**Oleg Ivanets**, co-founder and general partner of Private Equity UA Group, Master in Economics has over 10 years of financial and investment experience.

**Jacob Gitman**, partner, the head of American company “Agro Energy”, USA citizen, born in USSR, graduated from Moscow State Mining Institute where he received Ph.D. in the Physics of Solids. Last 5 years Jacob is specializing in international biofuel technology transfers. He’s the author of more than 50 scientific discoveries.

**Oleg Shvabsky**, partner and chief engineer, USA citizen, born in Ukraine, last few years has been working on the biodiesel-from-algae technologies. Oleg has few patents concerning this technology.

**Sergiy Osipenko**, Ph.D., chief technical consultant of the Project. Sergiy has over 40 patents in fluid mechanics, agriculture and other fields.

**Rudolf Trankenshu**, Ph.D. in Biology, chief biology consultant of the Project. Rudolf is the Head of biotechnology and phyto-resources department in Institute of South Seas Biology (InBUM).

Also the managers of the Project are **Remsi Sejdametov** and **Sabri Setmanbetov** with 10 years of project management experience each. They are responsible for operational management of the Project.

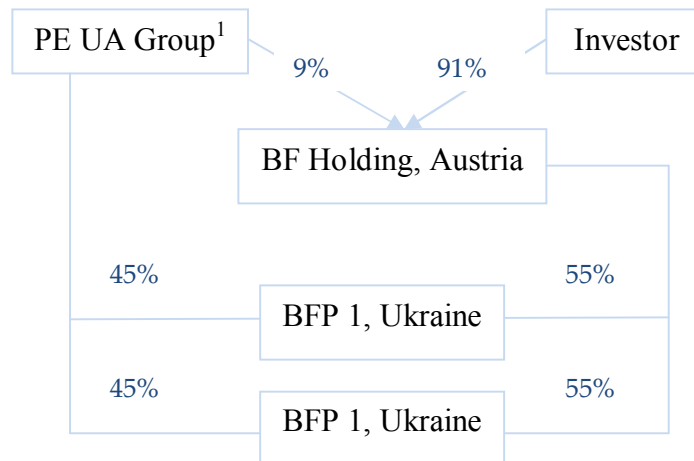
*The existing team is able not only to manage the technologies used in the Project but also can implement their own developments in the biofuel production field.*

## CORPORATE STRUCTURE

As it was mentioned above the total required capital is 100 \$mln.

Source of capital	Amount	Comments
The Private Equity UA Group	\$12 000 000	In the form of assets required for the Project. Mainly land and technical documentation.
Investor Equity	\$12 000 000	
Investor Debt	\$76 000 000	5% for 5 years
<b>Total</b>	<b>\$100 000 000</b>	

With respect to Ukrainian laws and corporate financial optimization we suggest such corporate structure<sup>1</sup>:



The actual share distribution would be 50 / 50 between the investor and initiator but this structure help us to manage financials carefully.

<sup>1</sup> The Private Equity UA Group means group of companies and people. The Group will be presented by different companies and private individuals in different juridical bodies.

## PROJECT DEVELOPMENT PLAN

Investment phase	Capital required, \$ mln.
<b>BFP 1</b>	<b>42</b>
Bioethanol plant	22
Biodiesel station	1
Greenhouses	7
Infrastructure	5
<b>BFP 2</b>	<b>58</b>
Bioethanol	31
Biogas	12
CHP 7 MW	3
Greenhouses	5
Infrastructure	7
<b>TOTAL</b>	<b>100</b>

Operational phase, Income Statement, \$ mln.	2011	2012	2013	2014
<b>Net Sales, including:</b>	<b>100,3</b>	<b>100,3</b>	<b>100,3</b>	<b>100,3</b>
<b>BFP 1</b>	<b>40,0</b>	<b>40,0</b>	<b>40,0</b>	<b>40,0</b>
Bioethanol	31,9	31,9	31,9	31,9
Vegetables	7,6	7,6	7,6	7,6
Biodiesel	0,5	0,5	0,5	0,5
<b>BFP 2</b>	<b>60,3</b>	<b>60,3</b>	<b>60,3</b>	<b>60,3</b>
Bioethanol	47,9	47,9	47,9	47,9
Vegetables	2,5	2,5	2,5	2,5
Electricity	9,8	9,8	9,8	9,8
<b>Operational costs, including:</b>	<b>40,6</b>	<b>40,6</b>	<b>40,6</b>	<b>40,6</b>
Grain	36	36	36	36
<b>Free Cash Flow</b>	<b>59,7</b>	<b>59,7</b>	<b>59,7</b>	<b>59,7</b>

Project Investment Characteristics, mln. USD					
	2010	2011	2012	2013	2014
Negative Cash Flow	100				
Positive Cash Flow		59,7	59,7	59,7	59,7
Market Capitalization					417,7
<b>Cash Flow</b>	<b>-100</b>	59,7	59,7	59,7	<b>477</b>
Discounted Cash Flow	-100	55	51	48	354

NPV, \$ mln.	409
<b>IRR</b>	<b>72%</b>
Total income for 5 years, \$ mln.	556
<b>ROI</b>	<b>111%</b>