



Bioenergy is What We Do

Project for EU:

Construction of mini-factory for liquid biogas(LBG)



BIOMETHANE VIA UPGRADED BIOGAS
COMPRESSION & LIQUEFACTION
FROM "ENERGY FROM WOOD & WASTE" LTD

Why?

- Biogas and especially in a liquid form (LBG) is a very useful clean and green renewable energy source.
- Biogas can easily replace benzine or diesel
- To burn biogas for heat or electricity today is as ineffective as burning for heat benzine or diesel fuel.
- We want to support EU technological supremacy in clean and green energy.



LBG:

- a good replacement for fossil fuels
- suits excellently to any engine
- nontoxic for humans, chemically inactive
- almost no CO₂ emission, no greenhouse effect on atmosphere (but any methane has to be collected)
- can enhance environment in the cities, decrease pollution
- a lot +++ more



Analysis of technologies of biogas processing in a volume from 800 to 1000 nM³ per hour

Technology	Equipment cost Euro	Product	Product yield	Product price	Revenue per year (~8000 h) Euro
Generation	1 500 000	Electricity	1,65 MW/h	36 Euro/MW/h	475 200
				54 (State dotation)	712 800
Cogeneration	1 800 000	Electricity	1,65 MW/h	36 Euro/MW/h	475 200
		Warmth	2 MW/h	26 Euro/MW/h	260 000
					735 200
Liquefaction	3 100 000	LBG	270 Kg/h	0,95 Euro/kg	2 090 000



Project structure

- Company as a project manager
- Biogas owner as a partner in EU
- EDO Ltd is a technology partner from Russia



Project plan

- I. Feasibility study, making agreements and other project documentation (inc. documentation for raising funds)
- II. Engineering and documentation design
- III. Delivery of factory equipment to EU
- IV. Construction of the factory
- V. Starting LBG production, delivery and sale



Project Budget

		12 months period, in euro
1	Feasibility study & Engineering	150 000
2	Factory equipment, delivery & mounting	2 700 000
3	Personnel salary, 3 people	120 000
4	Overheads	130 000
	Total:	3 100 000





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Period 12 months with working time 8000 h				Factory turnover
Basic productivity	2 200 000 kg	0,95 €/kg		2 090 000 €
Power consumption	2 600 MW	110 €/MW	286 000 €	1 006 000 €
Cost of rough biogas (CH ₄ ~50%)	7 500 000 m ₃	0,08 €/m ₃	600 000 €	
Salaries	40 000 €	3 people	120 000 €	
Before-tax profit				1 084 000 €



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SWOT analysis

STRENGTH

- Very good Return on Investment!
- Respectively short payback period (3-4 years)
- Project very well suited to the EU strategy of development
- We use latest and most efficient technologies in the world, hence inexpensive

WEAKNESS

- Project needs more than one investor to improve risk management
- Technology was invented in Russia, developed in China & Russia, some naturalization in EU is needed

OPPORTUNITIES

- This project can become a champion
- Strategic position of PK is excellent

THREATS

- Financing problems in the project and due to this longer period of implementation
- Price of rough biogas can grow too much so profit margin will decrease