Investment proposal – setting up an enterprise majoring in manufacture of photoelectric transducers in the territory of FEZ "Grodnoinvest" Republic of Belarus

CEI Form

A. Description of the projects possibilities.

A1. Name of the project:

Setting up an enterprise majoring in manufacture of photoelectric transducers.

а. Brief name:

Setting up an enterprise majoring in manufacture of photoelectric transducers.

б. Full name:

Setting up an enterprise majoring in manufacture of photoelectric transducers in the territory of FEZ "Grodnoinvest".

в. Brief description:

The purpose of the present project is the construction of a contemporary manufacture of competitive goods from monocrystal silicon for photoelectricity.

A2. State of the project:

Pre-investment stage. Investor is required for the realization of the project.

A3. Participating organizations and their role in the project (contact person, telephone, fax, e-mail, web-page):

FEZ «Grodnoinvest» - project's coordinator. Tkachenko Sergej Valentinovitch – head of the administration of FEZ "Grodnoinvest", contact person – Sergejchik Semion Antonovitch – chief of the department for investments and foreign economic activity.

A4. Description of the project (approaches, tasks, components, results, stages, terms, general financing, advantages, influence on transition periods in economy, etc.):

Silicic solar elements are used in photovoltaic industry as the major element of solar modules. They transform sunlight into electric current. The term «photovoltaics» means occurrence of electric current under the influence of light. Photovoltaic effect is most vividly expressed in semi-conductor materials. Silicon is the most accessible and wide spread among them. Silicon is a dominating material in the industry of sun elements.

Most solar elements are used from crystalline silicon (mono- or multi-). After growing of bullions, silicon is cut into thin plates. Manufacture of solar elements is based on that. Although silicon is not ideal for solar elements, it is the most essential material for powerful photovoltaic panels due to its low cost.

In accordance with the preliminary calculations the project must be conducted within 3-4 years and includes purchase or rent of the production space around 1000 м^2 and also 500 м^2 for the assembling of energy-saving equipment, equipment for waste neutralization, 400-600 м^2 for office facility and 400-600 м^2 for storage. Total space constitutes 2300-2700 м^2.

With the purpose of providing maximum effectiveness and quality, the enterprise will be equipped with state-of-the-art automatized equipment produced by the leading world companies.

First it is planned to set up an enterprise with the productivity about 10 megawatt per year which is equivalent to approximately 4, 5 mln. solar elements. Solar elements gather into groups and are pressurized under the glass. Such a construction is called a solar module and it is the major part of a solar electric power station. A number of modules in an electric power station determine its power and technical characteristics (voltage, current). Assembling of an electric power station can be done in any place including roofs of the buildings or hard-to-get places. Modules are safely protected from unfavourable weather conditions and serve for many years.

A4a. General cost of the project

14,5 million USD
A5. Preconditions / history/ general program / interconnected or similar projects**:**
Analyses of the modern market of photoelectric production in surface power engineering showed that surface power engineering will seriously compete with such traditional energy sources as coal, oil, natural gas and nuclear fuel by 2010. Photoelectric transducers of solar energy into electric one are the most prospective among non-traditional, renewable sources of electric energy. Photoelectric transducers have a wide spectrum of application starting from power supply of calculators and clocks to the creation of a central solar electric power station. Modular construction of solar batteries will make it possible to create sources of power supply for various power and voltage which is an advantage in comparison with other suppliers of energy. According to the adopted state programs the EU countries must fix electric power equal to 10 % of all power consumption of those countries to 2020. Each from 10 states of the USA, which accepted a development programme of photovoltaics must fix solar modules with the power of 800 megawatt during 6 years. In money terms the market of solar batteries values 3 billion USD annually, tendency of the market volume increase is on average 25% annually. Commercial success of the project is confirmed by commercial success of the analogous companies all over the world and governmental support of the European, Asian and North-American countries of the alternative solar power engineering.
A6. Brief description of influence on environment:
The production will be outfitted with modern equipment for wastes recycling to observe the requirements for environmental protection.
A7. Possible obstacles/ problems/ level of risk:
Considerable expenses for the project's realization – 14,5 mln. US dollars.
A8. Terms of realization and payback period of the project (years):
The project's pay-back period is 3-4 years.
A9. Branch characteristic of the project:
The Ministry of Industry

B. Articles of capital costs (total investments necessary for the realization of the project)	
B1. Physical components of the project (equipment, work, services etc.) necessary for the realization of the project	**B2. Capital investments (cost)**
Acquisition of equipment and its assembling Premises rent and maintenance Personnel training Circulating capital Total	11 400 000 US dollars 1 500 000 US dollars 120 000 US dollars 1 480 000 US dollars 14 500 000 US dollars
B3. Sub-projects on the disposition	**B4. Project cost**

C. Capital according to the source of origin which is available at the initiators of the project (proprietors, associates, sponsors, etc.)	
C1. Kind of sources (grants, investments, share participation/ property etc.)	**C2. Sum**
The right to grant a FEZ resident status and the right to lease a land plot for up to 99 years	

D. Required investments, missing means.		
D1. Lack of financial assets, kind of grant-in-aid (credit, individual share, etc.)		
An investor is needed. Share holding of several investors may as well be considered		
D2. Sources of financing	**D3. Type of a financial instrument**	**D4. Sum**
An investor's funds	Direct investment of the project's participants	14 500 000 US dollars
D5. Data of financial establishments involved into the realization of the project:		
Were not considered		
E. Demand (consumers) and proceeds		
E1. Type of consumers/ markets, volumes, prices, incomes, estimated benefits / savings		
Most perspective markets for the next decade are EU countries and Asian countries, USA and Australia. Besides, there are markets across Africa and Latin America.		
E2. Proceeds (sales)		**E3. Sum**
Own and attracted funds of an investor		
F. Operational expenditures.		
F1. Component expenses, depreciation policy, organization of manufacture and etc.:		
At an investor's discretion		
F2. Articles of expenses		**F3. Sum**

G. Net profit.	
G1. Profit of net profit (proceeds E2 minus operational expenditures F3)	**G2. Sum**
H. Information source of the project.	
H1. Form is filled in (by first name, last name, position)	
Michael Beliaev, specialist of the department for investments and foreign economic activity of the administration of FEZ "Grodnoinvest".	
H2. Organization (name and address)	
The administration of FEZ "Grodnoinvest": The Republic of Belarus, 230005. г. Grodno, Gorky str., 91A.	
H3. Tel./Fax/E-mail:	
Tel./fax: (+375-152) 43-01-75; e-mail: info@grodnoinvest.com	
H4. Date:	
2010	
H5. Departmental characteristic of the project:	
The administration of FEZ "Grodnoinvest"	