



Joint-Stock Company The State Export-Import Bank of Ukraine

UKREXIMBANK

**Energy Efficiency /
Renewable Energy Finance**



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UKREXIMBANK today:

- is 100% state-owned
- acts as the sole financial agent for the Government
- is one of the major (Top-3) and most reliable operators in Ukrainian banking market
- is a nationwide leader in corporate banking, trade finance, energy efficiency and renewable energy financing
- possesses well developed branch network

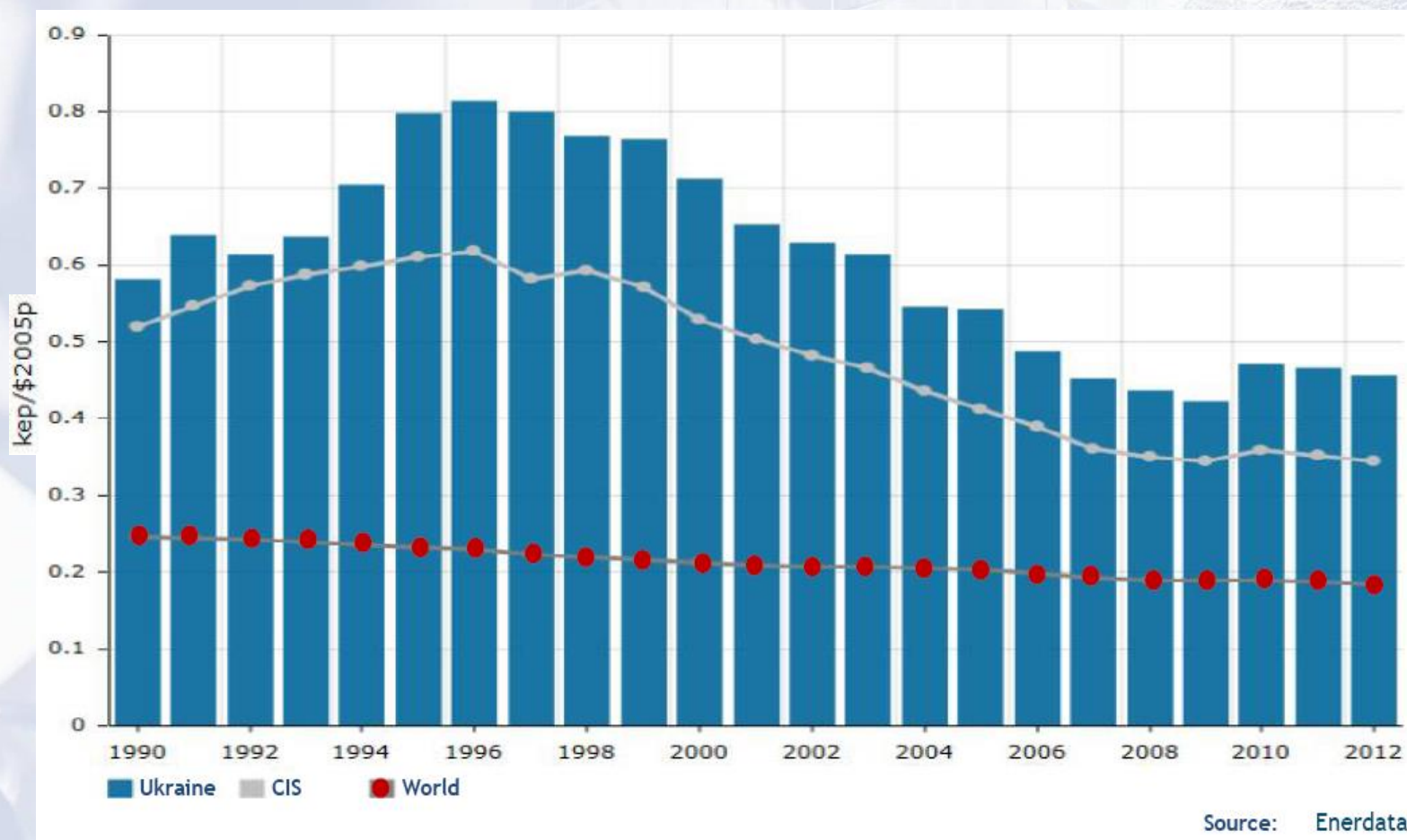
UKREXIMBANK today:

- possesses the widest network of foreign correspondents and long-standing reliable partners
- services considerable proportion of export and import activities of Ukrainian businesses
- is the only Ukrainian bank recognised as direct borrower/guarantor by over 35 primary Export Credit Agencies on MLT-financing

Local Business Outlook

- Environment:
 - consequences of external aggression;
 - lack of liquidity and cost-effective funding in the local financial sector, complicated access to hard currency;
 - heritage of low energy tariffs: outdated real sector asset base and the highest industrial energy intensity in the region etc.;
 - initial signals of increasing activity in the real sector.

Sustainable energy in Ukraine: Energy intensity of GDP



Sustainable energy in Ukraine: Potential

Sector	Annual Technically Reachable Energy Potential		Annual Natural Gas Substitution
	Billion KW/h	Billion t of c.e.	Billion м3
Wind energy	41.7	21	18.3
Solar energy	28.8	6	5.2
Geothermal energy	105.1	12	10.4
Mini-hydro-power engineering	8.3	3	2.6
Biomass energy	162.8	20	17.4
Environmental energy	154.7	18	15.7
TOTAL	501.4	80	69.6

Source: Ukrainian State Agency NAER

Ukreximbank: competent and timely solutions

- Sustainable energy financing
 - standard product implemented, to meet MT and LT financing requirements of local businesses;
 - almost a decade of expertise, including intermediated on-lending through local banks; dedicated PIU to assess economic and technical feasibility, E&S and procurement compliance;
 - over \$550 million IFI funding for over 350 EE/RE and SME projects.

Ukreximbank: competent and timely solutions

1997: World Bank: Export Development Project

1998: KfW: SME Programme

2006: World Bank: Second Export Development Project (EDP-2)

2007: EBRD: Ukraine Energy Efficiency Programme

2007: EBRD: Trade Facilitation Programme (TFP)

2008: NIB: Environment Friendly Industry Modernization

2008: EBRD: UKEEP: Extension

2009: EBRD: Sub debt & Syndication

2010: EBRD: Extension for TFP

2011: (i) World Bank: Energy Efficiency Project & (ii) Additional Financing for EDP-2

2012: EBRD: UKEEP-II: SMEs [incl. Donor Funding - EU]

2012: Global Climate Partnership Fund: Sustainable Energy

2012: EIB: SMEs & Energy Efficiency / Environment Loan

2012: EBRD: Extension for TFP

2012: EBRD: Increased TFP factoring limit

2014: EBRD: Extension for TFP

UKREXIMBANK: IFI Channelling Donor Support

Wide spectrum of instruments under the IFI programmes:

- Austria and Sweden supported implementation of Ukraine Energy Efficiency Programme (TA funding)
 - energy surveys
 - marketing
 - in-house training (including introduction of environmental and social procedures into the credit cycle)
- EU support to SME Energy Efficiency Facility (Donor Funding)
 - targeted support in case of portfolio deterioration

Sustainable energy in Ukraine: potential next steps

- review of the OECD's risk classification for Ukraine on officially supported export credits
- support to development of transparent and predictable business environment:
 - encouraging investors enter and remain in the market
 - sustainable sector arrangements including Green Tariff / local component / taxation / off-take
- extend access to long-term funding for sustainable energy investments in private sector to create leverage in the market
 - direct / intermediated finance
 - credit enhancement
 - risk sharing (including further elaboration of existing instruments)

UKREXIMBANK: Recognized for Sustainable Energy Financing



Largest UKEEP Project is under Construction: Ivano-FrankivskCement will save more than \$10 million per year from modernizing its production technology

A pioneer in the Ukrainian cement industry

Around 90% of Ukraine's cement producers are still using the "wet" production method, which is very energy intensive and considered an obsolete technology by modern standards. Converting to the "dry" method using modern equipment usually saves around 50% of energy consumption. But cheap energy has kept the Ukrainian cement industry from converting.

Ivano-FrankivskCement recognized the threat of increasing energy prices and the benefits of modern technology and started investing. It applied for UKEEP financing for part of the large total investment cost of \$87 million. UKEEP experts visited the plant for a few days to make an assessment, and less than two weeks later approved UKEEP financing of \$15 million. The rest is covered by commercial loans and own financing. The investments will strengthen the company's competitive position as a modern and energy efficient cement producer, and lead to a very large reduction of CO₂ emissions, equalling the emissions from 350,000 cars driving one lap each around the earth's equator!



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For more information on how Your company can receive financing for energy efficiency projects, visit www.ukeep.org, or call 044 205 32 02.

The Company

Main activities	Production of various cement products. Annual production of 1.1 million tonnes of cement and clinker.
Region	Ivano Frankivsk, Ukraine

Project Goal and Main Investments

Project goals	<p>The project changes the manufacturing method of clinker production from the inefficient wet method to the energy-efficient dry method. The goals are to:</p> <ul style="list-style-type: none"> Decrease energy consumption (mainly natural gas, coal and electricity) Increase annual production capacity
Main investments	<p>The investments will change the whole production process:</p> <ul style="list-style-type: none"> Crushing, storage, grinding and drying of raw materials Raw meal silo and kiln feed system New Kiln, Preheater, calciner and clinker cooler
Investment size	Approximately \$87,000,000

Expected Results

Operational results	<ul style="list-style-type: none"> Increased production capacity by more than 60% Decreased energy consumption by more than 50% Decreased natural gas consumption of almost 21 million m³ per year Decreased coal consumption of more than 90,000 tonnes per year Decreased electricity consumption of more than 13,000 MWh per year The decreased energy consumption leads to a reduction of almost 3 million tonnes of CO₂ equivalents
Investment profitability	<ul style="list-style-type: none"> Annual savings of more than \$10,000,000 Payback period of 8-11 years (in present value terms) 15-20% Internal Rate of Return on the Investment

UKEEP Project – Gadyach Cheese Factory: Investment in modern Nano-filtration technology will pay for itself in less than one year!

Energy Efficient Cheese - A Lucrative Business

CJSC Gadyach Cheese factory is one of the largest producers of milk products in Ukraine. Located in Poltava, its product range consists of more than 80 various products with a total annual production of 3,000 tonnes.

In order to increase its competitiveness, the company decided to replace the old vacuum evaporation filtering system used in its cheese production with a new energy efficient nano-filtration system. The new system will eliminate natural gas consumption and save more than 25% of the electricity consumption of the production process. UKEEP provided financing for the \$1,000,000 investment, which will yield net savings of more than \$1,500,000 per year in decreased natural gas and electricity consumption – giving an instant payback of the investment and huge cash savings for many years to come!



The Company

Main activities	Milk products, mainly cheese production
Region	Poltava, Ukraine

Project Goal and Main Investments

Project goals	<p>The Investments aim to:</p> <ul style="list-style-type: none"> ▪ Eliminate natural gas consumption in the rennet cheese production ▪ Decrease electricity consumption
Main investments	<p>The proposed investment:</p> <ul style="list-style-type: none"> ▪ Replacement of the old vacuum evaporation filtering system with new energy efficient nano-filtration equipment.
Investment size	Approximately \$ 1,000,000

Expected Results

Operational results	<ul style="list-style-type: none"> ▪ Natural gas savings of 7.6 million m³ per annum ▪ Electricity savings of 290 MWh per annum
Investment profitability	<ul style="list-style-type: none"> ▪ Annual savings of more than \$1,500,000 ▪ Payback period of less than 1 year ▪ Internal Rate of Return of 155 %

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UKEEP Project – Nibulon Agricultural Company: Nibulon will save almost 10 million m³ of natural gas per year

Installation of new equipment decreases dependency on natural gas

Nibulon is one of Ukraine's largest producers and exporters of agricultural products, such as wheat, barley, corn, rye, sunflower seeds, etc. Nibulon has a wide network and highly technological terminals for intake, storage, drying and transportation of crops via its regional network.

In order to save natural gas in the processing and storage of grains, Nibulon will install new and modern burning devices and silos with active ventilation systems on 14 dryers. The investment of USD 15 million will result in savings of 9.5 million m³ of natural gas worth USD 3 million per year. Additional positive results of the investment is sustained high quality of the products – avoidance of mechanical damage, cracking, color and scent shifts as well as steady drying of the crops. The large natural gas savings will lead to CO₂ emission reductions of almost 18 000 tonnes per year, which is the equivalent of the yearly CO₂ emissions from 8 000 cars.



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The Company

Main activities	Producer and exporter of agricultural products, including wheat, barley, corn, rye, sunflower seeds, etc.
Region	Mykolayiv City

Project Goals and Main Investments

Project goals	<p>The project aims to:</p> <ul style="list-style-type: none"> Reduce dependency on natural gas Increase efficiency of grains intake, processing and storage Minimize negative environmental impact Increase product quality
Main investments	<ul style="list-style-type: none"> New Burners Active Ventilation New Dryers New silos Thermometry systems
Investment size	Approximately \$15 000 000

Results of the Project

Operational results	<ul style="list-style-type: none"> Annual reduction in natural gas consumption amounting to approximately 9 500 000 m³
Investment profitability	<ul style="list-style-type: none"> Annual savings of approximately \$ 3 000 000 Payback period of 5 years Internal Rate of Return on Investment 28%

Kharkiv Energy Machine Building Plant:

Building energy machines more efficiently saves more than \$ 400 000 per year

Many good investments identified through Energy Audit

Kharkiv Energy Machine Building Plant is a fast-growing producer of boiler equipment and frame structures, selling its products to customers both in Ukraine and its neighboring countries. With 300 employees, it is a medium-sized company with ambitions to modernize and expand its production.

In line with its expansion plans, the company requested assistance from UKEEP experts in analyzing energy saving opportunities at its production facility. The main investment that the company was interested in was new production equipment that would consume 90% less energy compared to its current outdated equipment. In addition, the UKEEP experts recommended a number of smaller but very profitable energy efficiency investments, such as lighting optimisation and exchange of electrical heaters. The total investment of \$ 4 million will save the company more than \$ 400 000 per year in energy costs and greatly increase its production capacity. The project shows that energy efficiency measures can be implemented profitably both at the producers and users of energy equipment.



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The Company

Main activities	The company produces energy machines, including <ul style="list-style-type: none"> ▪ Boiler equipment ▪ Frame structures for electrostatic filters ▪ Engines of air-cooling
Region	Kharkiv

Project Goals and Main Investments

Project goals	The project aims to: <ul style="list-style-type: none"> ▪ Reduce electricity and gas consumption ▪ Minimize negative environmental impact
Main investments	<ul style="list-style-type: none"> ▪ New production equipment ▪ Re-dimensioning of transformer substation ▪ Lighting optimisation ▪ Exchange of electrical heaters ▪ Refurbishment of administration building
Investment size	Approximately \$ 4 000 000

Results of the Project

Operational results	<ul style="list-style-type: none"> ▪ Electricity consumption reduced by 5 900 MWh per year ▪ Natural gas consumption reduced by 6 500 m³ per year ▪ CO₂ emissions reduced by 4 800 tonnes per year
Investment profitability	Profitability varied between the different investments: <ul style="list-style-type: none"> ▪ Payback period of 1-11 years ▪ Internal Rate of Return on Investment 14-112%

Thank you for your attention!

The State Export-Import Bank of Ukraine

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