



# Investments by Romanian companies using the EU EBRD Energy Efficiency Finance Facility

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EUROPEAN UNION



**European Bank**  
for Reconstruction and Development



ENERGY EFFICIENCY FINANCE FACILITY



# Companies from a very wide range of sectors finance investments with the EEFF

Metals      Machine building      Oil-and-gas      Paper      Packaging

Ceramics      Wood processing      Plastics      Chemicals

Industrial buildings      Hotels      Textiles      Materials handling

Agriculture      Food      Drinks      Bakeries      Dairies

Wood processing      Furniture      Building materials

Heavy industry      Light industry



... and more

# Here are some examples...



## Steel sector - large

### State-of-the-art furnace yields hot energy savings

Ductil Steel, who manufactures steel wire in Oțelu Roșu, introduced:

- an energy-efficient electric arc furnace...
- ...with a continuous optimised shaft...
- bringing 44% specific energy savings

EEFF credit of 2.5 million Euro from BT helped this 12 million Euro investment



### Forge melts down its energy bills

Doosan IMGB is Romania's largest forging and casting company

- replaced steam boilers and rehabilitated three ovens
- introduced an Energy Management System
- ... bringing 1.5 million Euro/year in energy savings

Financed using an EEFF credit of 2.5 million Euro from BCR



## Steel sector - small

### A forge forges ahead with energy saving investments

Forsev - producer of a wide range of carbon steel, alloys, stainless steel, aluminium and other metals

- modernised two tempering ovens and two annealing ovens
- modernised a heat treatment manipulator and an oil cooling basin
- modernised a water cooling and washing basin and a forge manipulator
- 56% specific energy savings



Financed using a 287,000 Euro EEFF credit from BRD Société Générale

### Steel fittings manufacture replaces heating and production equipment

Sara - a manufacturer of steel fittings for welding from Buzău, used twice EEFF and replaced:

- 25 electric heaters replaced with a natural gas-fired heating system
- replaced a hydraulic press and two furnaces - bringing 40% energy savings



Financed using an EEFF credit of 317,000 Euro from BCR

## Aluminum sector

### Can producer modernises its production line

Can Pack - the only aluminium beverage can producer in Romania

- modernised the production line
- installed an upgrade kit for the necker line
- installed a new pin oven and a decorator

EEFF credit of 2.5 million Euro from BRD Société Générale



### Aluminium profile producer warms to energy savings

Delta Aluminii - a manufacturer of aluminium profiles - replaced

- a furnace for heating aluminium pieces
- introduced an oxy-gas burner to a melting furnace
- the two investments brought 70% final energy savings

Financed using an EEFF credit of 125 000 Euro from BCR



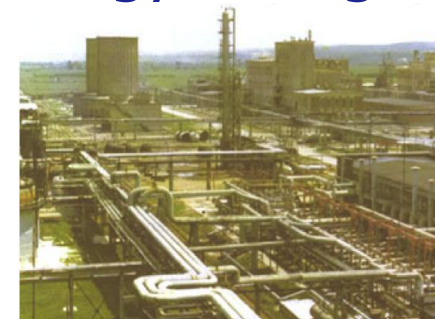
## Chemicals sector

### Combined heat and power investment brings 30% energy savings

Chimcomplex of Onești, Bacău – is a major chemicals plant

- replaced grid-based power and a conventional steam boiler...
- ... with a cogeneration unit and a heat recovery boiler

This 10 million Euro investment included a 2.5 Euro EEFF credit from BCR



### Energy efficient chemicals production

Sinteza manufacturer of a wide range of chemicals, paints and fluids from its plant in Oradea

- replaced the transformers, bank of capacitors and the low efficiency lighting
- thermal rehabilitated the industrial hall
- rehabilitated the pipes insulation
- achieved 48% energy savings

Financed using a 150,000 Euro EEFF credit from BRD



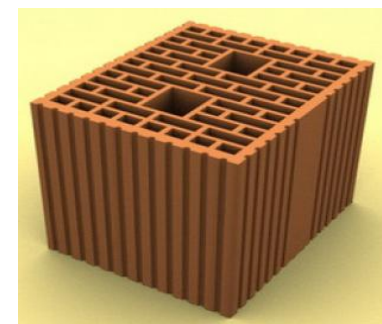
## Building materials sector

### Energy efficiency – an investment as solid as a...

Cemacon, Zalău, a large brickmaker, lowered energy consumption per block

- replaced an old ceramic block production line with a new one..
- ... including a tunnel kiln and a tunnel dryer
- 12.7 million Euro (of 28.4 million) was energy-efficiency related

Of which maximum EEFF credit of 2.5 million Euro financed by BCR



### An energy-efficient energy efficiency company!

Com Sova, Buzău makes polystyrene panels for thermal insulation of buildings:

- improved technological processes; installed solar collectors
- insulated its own production hall; ... and several other investments
- achieved 26% energy savings overall

1.8 million Euro investment, including 1 million Euro EEFF credit from BCR



## Heavy industry

### 47% energy savings 'on track'

REVA Simeria – who builds and repairs railway rolling stock:

- replaced a steam boiler and two forge stoves
- recovered heat from its compressed air production facility
- rehabilitated its compressed air networks
- insulated its production hall

EEFF credit of 280,000 Euro from BCR

### 25% energy savings 'dredged up'

Promex, Brăila – a metallurgical company

- produces castings, turned and forged parts and makes earth-moving, road, construction and naval equipment
- modernised a heat treatment furnace and a lathe

EEFF credit of 473,000 Euro from BCR



# Heavy industry

## A heavy industry lightens its energy bill

Beta - a manufacturer of equipment for the petrochemical, energy, oil refining and cellulose industries

- replaced the welding equipment, a press and a furnace
- replaced the capacitors and pumps
- thermal rehabilitated two buildings

EEFF credit of 739,000 Euro from BRD



## Specialised equipment bring energy savings for heavy industry

Unio - manufacturers heavy industrial equipment

- replaced a gear profile grinding machine
- replaced a milling and boring machine

Financed using an EEFF credit of 1.2 million Euro from Raiffeisen Bank



## Automotive sector

### Engine manufacturer invests in building rehabilitation and lighting

Electroprecizia - a manufacturer of electric engines and electric and electronic equipment for vehicles

- modernised the external lighting system
- thermal rehabilitated the production building
- achieved 48% energy savings



Financed with an EEFF credit of 1.2 million Euro from Raiffeisen Bank

### Manufacturer of rubber parts for vehicles invests in energy efficiency

Ronera Rubber - a producer of specialist items, principally for the automotive industry

- replaced hydraulic presses
- replaced a rubber mixing line with a new line
- investments brought 83% and 73% specific energy savings respectively



Financed using an EEFF credit of more than two million Euro from BCR

## Paper and packaging sector

### Cardboard and tissue producer makes energy-saving investments

Vrancart - manufacturer of cardboard and tissue paper - replaced an older technology, introducing

- a new steam generator
- a new electrical actuator for a system that sucks paper onto rolls
- a new machine to dry waste sludge and plastics
- achieved specific energy savings of 30%



Financing include an EEFF credit of 800,000 Euro from BRD Société Générale

### Paper, corrugated board and packaging producer saves energy

Ambro – producer of paper, corrugated board and paper packaging – used EEFF twice

- replaced its steam boiler and auxiliary equipment – 27% energy savings
- replace a corrugated board machine – 22% energy savings



Financed using two EEFF credits totaling 1.7 million Euro from BRD

## Plastics sector

### Energy-efficient extruders

Indra of Târgu Mureş, who manufactures plastic foils:

- replaced one of its five extruders..
- ...lowering specific energy consumption by 42%

EEFF credit of 360,000 Euro from BCR towards this 400,000 Euro investment



### Energy-efficient moulding machines

Sterk Plast of Constanţa, who manufactures household plastic items:

- bought an injection moulding machine and blow moulding machine
- payback – less than two years.
- monthly energy savings more than costs of servicing the loan

Financed using an EEFF credit of 345,000 Euro from Banca Transilvania



## Plastic packaging sector

### Energy *inefficiency* – is like throwing away money!

Amplast of Lerești, Argeș, who makes throw-away plastic packaging

- replaced five smaller thermoforming machines...
- ... with two larger thermoforming machines
- achieving 79% specific energy savings



Financed using an EEFF credit of approx. 900,000 Euro from BCR

### Energy *efficiency* – is like printing money!

Flexo Graphic - manufacturer of printed labels and flexible packaging

- modernised a printing line
- changed a laminating machine
- achieved specific energy savings of 40%



BRD fully-financed Flexo Graphic's investment with an EEFF credit of more than 1.9 million Euro

## Materials handling sector

### Port handling company picks up some energy savings

- Port Bazinul Nou - a port services company on the banks of the Danube
- replaced two electric 'floating cranes' (anchored cranes)...
- ... with a modern, diesel-powered 'Sennebogen Manipulator'

Financed using an EEFF credit of 309,000 Euro from Raiffeisen Bank



### Recycling company grapples with energy saving

- Remat Bucuresti Sud – who recovers and recycles waste, invested in
- A baling press that processes 8x more waste with only 6% more energy
- - so specific energy consumption decrease of 87%
- A more energy-efficient grapple – bringing 18% energy savings

668,000 Euro invested include a 400,800 Euro EEFF credit from BRD



## Wood processing sector

### Timber company cuts deep into its energy bill

Robinia - company specialised in the production and sale of timber

- replaced an old log cutting machine
- enabled wood cutting capacity to rise substantially ...
- ... while lowering electricity consumption per cubic metre of processed wood by 69%

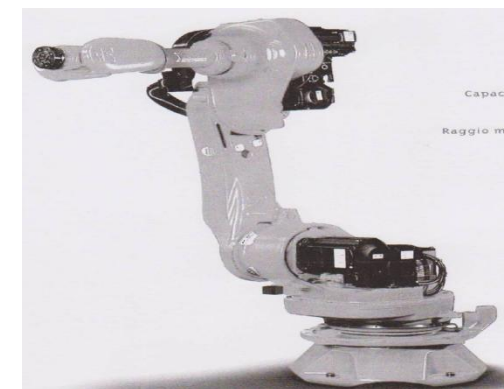


OTP Bank fully-financed this energy efficiency investment with an EEFF credit of 150,000 Euro

### An robotic polishing line brings energy savings

Smart Impex of Moftinu Mare, Maramureş – a coffin maker – invested in:

- two polishing lines (robotic polisher pictured), a finishing line
- a panel gluing press and production streamlining
- the result: specific energy savings of 63%



Financed using an EEFF credit of 269,000 Euro from CEC Bank

## Agricultural sector - farms

### Count the savings! One potato, two potato...

Biofarm - company who sorts and packs potatoes for marketing purposes

- replaced a sorting and packaging line...
- ... and relocated it into a well insulated building
- achieving 64% energy savings

EEFF credit of 264,000 Euro from BCR



### An omlette of energy-saving investments

Avicola Găești - an egg producer

- replaced the feeding, ventilation, cooling and air systems
- upgraded the lighting system
- installed new egg collection and control systems
- energy consumption falls from 27.4 to 10.2 MWh/million eggs

Financed using an EEFF credit of 1.1 million Euro from CEC Bank



# Agricultural sector - greenhouses

## Blooming energy savings

Fresh Flowers of Lehliu Gară, Calarași – is Romania's largest tulip grower

- replaced the greenhouse heating system
- built a better-insulated cold storage unit
- achieved 28% energy savings

Financed using an EEFF credit of 125,000 Euro from Banca Transilvania



## Greenhouse slashes greenhouse gas emissions

Excelent Prodimpex, Arad - a greenhouse vegetable grower

- disconnected from a remote, lignite-fired heating system and...
- installed two modern, fully-automated, natural gas-fired boilers located next to the greenhouses

Financed using an EEFF credit of 30,000 Euro from BCR



## Agricultural sector - dairies

### A renewable energy source displaces a fossil fuel at a dairy

Comalat of Nanov, Telorman - is a producer of drinking milk, sourcream, cheese and yoghurt

- Invested in a biogas plant, an absorption chiller and a heat recovery unit
- 27% energy savings and 57% GHG emissions reduction



Financed using an EEFF credit of 257,900 Euro from BCR

### Dairy transforms a building through energy efficiency

Global Distribution Group - collects buffalo and cow milk from farmers for processing

- company to relocate into an old building - to be thoroughly modernised:
- heating and hot water system, ventilation and lighting
- insulation of floor, walls, roof, new windows and doors
- Energy Performance Certificate shows building rises from 'D' to 'B'

Financed using an 300,000 Euro EEFF credit from CEC Bank

Performanța energetică a clădirii		Clasificarea	72.58
Sistem de certificare: Metodologia de calcul al performanței energetice a clădirii conform standardului EN 15613:2007		Clasificarea	Clasificarea
Echivalența energiei necesară			
Echivalența energiei necesară			
Consum anual specific de energie (kWh/m²)		303.43	196.73
Indice de emisii echivalente CO2 (kg/m²/an)		36.54	47.21
Căldura anual specifică de încălzire (kWh/m²/an)			
Căldura anual specifică de răcire (kWh/m²/an)			
Consum anual specific de energie din surse regenerabile (kWh/m²/an)			

## Food sector - commodities

### Sweet energy savings...

Lemarco Cristal of Urziceni, Ialomița – a sugar processor – invested in:

- a steam plant, a conveyor system, a packaging plant...
- a water system a compressed air system, capacitors
- ... bringing 37% energy savings

EEFF credit of 1.3 million Euro from BRD Société Générale



### Carbon-neutral technical solution...

Ardealul of Carei, Satu Mare refines edible oils and animal feed meal

- replaced two old steam boilers...
- ... with a new sunflower seed shell-fired steam boiler
- achieved 17% energy savings

Financed using an EEFF credit of 740,000 Euro from BRD Société Générale



## Food sector - bakeries

### Bakery uses wood-fired ovens instead of liquefied petroleum gas

Moripan Alex - a manufacturer of bakery products

- installed a new, larger, wood-fired bread oven
- installed an LPG-fired steam boiler
- yielding 32% electricity savings and 38% cut in LPG consumption

Financed with an EEFF credit of 70,000 Euro from BCR



### Replacing a donut machine brings delicious energy savings

Gerpen - a manufacturer of baked and deep fried foods

- replaced a deep fryer for donuts
- installed a dough dividing machine
- changed a mixing vessel for bread
- Yielded 65% energy savings - and substantially lowered cooking time



Smallest investment in the EEFF portfolio was financed using a credit of 25,200 Euro from OTP Bank

## Food sector - cookies, cakes and snacks

### A simple-and-effective way to bake some energy savings

Pion of Mediaș, Sibiu bakes cakes, pastries, cookies, sweets and wafers

- replaced a conventional wafer baking line with an automatic one...
- lowering energy consumption per wafer by 64%

Financed using a 239,000 Euro EEFF credit from CEC Bank



### Crunchy energy savings!

Pufulete of Bușag, Maramureș – produces corn puffs coated with oil and salt

- retired two older extrusion machines
- bought a new, larger, more energy-efficient model...
- ... so energy use 'per corn puff' fell by 44%

EEFF credit of 180,000 Euro from BRD Société Générale



## Drinks sector

### Vinyard improves energy efficiency at ten working locations

Vincon - a winemaker who operates more than 2 150 hectares of vineyards

- replaced wine pumps and winemaking machines
- replaced pneumatic presses and a bottle blowing machine
- replaced the a heating–cooling installation
- investments yield an average energy savings of 56%

Financed with an EEFF credit of around 1.2 million from BRD



### A sparkling example of energy efficiency

Rio Bucovina of Vatra Dornei is a producer of table mineral water

- Modernized a bottling line
- Replaced an ozone generator
- Lowered energy and environmental emissions by 22%



Financed with a 342,000 Euro EEFF credit from BRD Société Générale

## Textiles sector

### Energy efficiency is always in fashion

Moda, Arad – made four types of investments

- replaced the electrical and ventilation systems
- replaced a textile cutting machine
- replaced compressors and pumps
- modernised a steam and hot water boilers
- achieving 35% energy savings

Financed with an EEFF credit of 294,000 Euro from BRD



### Material cost savings for a dry cleaner

Prod Cresus, Bacau

- manufacturer clothes and runs a dry cleaning service
- replaced a steam boiler and a dry cleaning machine...
- found 31% energy savings

Financed using an EEFF credit of 42,500 Euro from CEC Bank



## Printing sector

### Energy efficiency is big news in the printing sector...

Mega Press Holding – a large printing house and media group

- retired three rotary printing presses...
- and introduced a single larger rotary printing press
- which brought 59% energy savings

Financing – a EEFF credit of 2.45 million Euro from BRD Société Générale



### ... it's like printing money!

Tipografia Everest - a supplier of prepress services and offset printed materials

- replaced three separate machines for printing, coating and drying...
- ...with a new offset printing machine that combines all three operations
- lowering energy consumption per page by 45%

Financing – a EEFF credit of of around 830,000 Euro from Raiffeisen Bank



## Hotel sector

### Energy efficiency is an great opportunity for hotels to bring...

Turism Covasna - improved energy efficiency at two hotels and a mineral water treatment centre

- insulated external walls with polystyrene
- replaced skylights with 10 mm polycarbonate plates
- hydro and thermal insulation of the roof
- replaced wood and metal-framed doors with sealed PVC double-glazed units



Financed by a 383 000 Euro EEFF credit from Raiffeisen Bank

### ... better energy services for the guests, lower costs for the company

Turist Olănești - owns and operates a 47-room hotel - Vila Florilor - and is investing in

- thermal rehabilitation of the hotel
- replacing the heating source
- installing two natural gas-fired boilers



Financed using an EEFF credit of 112 000 Euro from CEC Bank

# Companies use a wide range of technologies and methods to save energy...

Replacing equipment

Boilers

New technologies

Compressors

Heat recovery

Machines

Cooling

Building insulation

Replacing production lines

Low-energy lighting

Automation

Cogeneration

Relocation

Energy management systems

Trigeneration

Ovens

Biogas

Solar hot water

... and more

# Here are some examples...



# Simply replacing machines can save energy

## Energy bills cut (and rolled and pressed)

Recomplast of Buzău, who makes parts for the power network, invested in:

- oxy-fuel and plasma cutter; screw-thread rolling machine;
- an automatic press with mechanical feeding line;
- medium frequency inductive heating system

Financed using EEFF credits totalling around 200,000 Euro from BCR



## An injection of energy savings

Crilelmar - a producer of plastic household articles

- replaced an old plastic injection moulding machine
- 41% energy savings - despite a 78% increase in production capacity
- hence specific energy savings of 67%

Financed using an EEFF credit of 116,000 Euro from CEC Bank



# New technologies often bring energy savings

## A hot way to save energy

Metalul Mesa of Salonta, who makes forged steel parts and specialist tools

- installed an inductive heating technology...  
... to replace old, inefficient gas furnaces like this one
- and replaced old air compressors with a single new compressor
- achieving energy savings of more than 70%

Financed with an EEFF credit of 86,000 Euro from BCR



## A cool way to save energy

Kubo Ice Cream Company, who makes 'Amicci' Ice Cream

- retired a freon-based cooling system...
- ... and introduced an ammonia-based cooling system
- yielding both environmental benefits and energy savings

EEFF credit of approx 1.1 million Euro from BRD Société Générale



# Recovering waste heat saves energy

## Waste heat to steam...

Rulmenți of Bârlad – a manufacturer of bearings and bearing elements

- who already had energy-efficient combined heat and power (CHP)...
- ... became even more energy efficient - by installing a recuperating boiler to produce saturated steam from CHP combustion gases
- Energy savings: 20% - 59% (depending on the steam demand)

Financed with an EEFF credit of 360,000 Euro from BCR



## Waste heat to hot water...

Cableteam of Sighișoara – a cable manufacturer:

- fed heat recovered from an air compressor to the hot water system...
- ...and modernised a wiredrawing machine
- 43% energy savings pay for the investment in less than three years

Financed with an EEFF credit of 90,000 Euro from BCR



# Automation and CNC machines save energy

## Robots save energy in Alba Iulia

IPEC of Alba Iulia manufacturers household porcelain articles for IKEA

- introduced four new glazing lines (with robotics)
- replaced three presses with state-of-the art technologies
- both projects brought more then 65% energy savings

Financed using two EEFF credit from BCR of 2.5 million Euro



## Specialised CNC machine carries out multiple operations

Conf Binale Impex - manufacturer of wooden doors and window frames

- replaced a profiling machine and a perforating machine ...
- ... with a new CNC compact machining centre for both operations
- more than doubling production capacity for window and door frames
- 66% energy savings / 85% specific energy savings

Financed with an EEFF credit of 123 000 Euro from BCR



# Painting and varnishing can be energy-saving opportunities

## Sanding, milling, mortising and varnishing...

Plimob - Sighetu Marmăției, Maramureș – a furniture manufacture, introduced:

- a fully-automated robotic varnishing in an electrostatic field
- new sanding, milling, mortising machines
- replaced an exhaust installation, modernised an assembly line
- the result: 36% energy savings, payback in 4 years

Financed with an EEFF credit of 738,000 Euro from BRD Société Générale



## A powder coating line brings energy savings

Eldon of Brașov, who manufactures metallic structures, enclosures and cabinets...

- installed a new powder coating (painting) line
- achieved energy savings of 31%

This 420 000 Euro investment was financed using an EEFF credit from BRD



# Building insulation brings more than one benefit...

## Lower heating costs...

World Machinery Works (WMW) is a machine builder, operating from Bacau

- modernised its heating system and insulated the production building
- saving energy and improving comfort levels for the workforce

Financed with an EEFF credit of 400,000 Euro from CEC Bank

## ... and a cosy workforce

Rom Olsena Company of Târgu Mureş manufactures nails and wire

- transformed a draughty old industrial hall into this modern-looking unit
- insulated roof, windows and doors – installed a modern boiler
- achieved 48% energy savings

Financed with an EEFF credit of 61,000 Euro from CEC Bank



# Solar energy can be incorporated into energy efficiency investment solutions

## Solar-assisted hot water system keeps hotel guest happy

Olănești Riviera (Hotel Olanesti) was the very first hotel to use the EEFF:

- replacing burners and switching from LFO to natural gas for two boilers
- introducing a solar-assisted hot water system
- insulating of the building envelope



Financed using a 663 000 Euro EEFF credit from CEC Bank

## Compressors manufacture invests a wide range of measures

Timpuri Noi relocated to Jilava on the outskirts of Bucharest, and:

- insulated its new production hall; replaced older equipment;
- installed a modern heating system and solar-assisted hot water
- The result: 52% energy savings



Investment of almost 2.5 million Euro using an EEFF credit from BCR

# Low-energy lighting is another bright idea!

## L.E.D. = Low Electricity Bills – Q.E.D.

Electrotel of Alexandria makes low and medium voltage electrical equipment

- Replaced low efficiency lamps with L.E.D. lighting
- Also insulated production building, solar-assisted hot tap water
- Overall energy savings 37% (68% for the L.E.D. component!)

Financed by CEC Bank using an EEFF credit of 557,000 Euro



## Boring machine brings interesting energy savings!

Mirfo of Târgu Jiu manufactures machine tools and welded sub-assemblies

- Modernised a boring machine and two overhead cranes
- Introduced an innovative natural day-lighting system (pictured)
  - bringing energy savings, health and productivity benefits
- Overall energy savings – 39%



EEFF credit of 329,000 Euro from BT towards this 411,000 Euro investment

# Combined Heat and Power - including BOOT - is compatible with the EEFF

## Pasta manufacturer lowers energy costs without investing a penny

Sam-Mills signed a Build-Own-Operate-Transfer agreement with the ESCO SE-GES

- The ESCO SE-GES installed a natural gas-fired 1.8 MW cogeneration unit...
- ... to supply Sam Mills' heat and power needs



Part of this 1.5 million Euro investment was financed with an EEFF credit from BRD

## Power investment saves 55,000 tons of CO<sub>2</sub>/year

OMV-Petrom's site at Opreşeneşti, Braila has high-sulphur well gas

- The ESCO SE-GES installed a power plant to use the gas...
- ... make electricity to help meet OMV-Petrom's power needs



SE-GES financing included a 1.1 million Euro EEFF credit from BRD

# Your company can be the next to benefit from the EU EBRD Energy Efficiency Finance Facility

- **Loans** – of up to 2.5 million Euros per company, through:\*



- **Free** (EU financed) **technical consultancy** from Tractebel Engineering
- **Grants** of 15% of the loan value (max. 375,000 Euro each)

## ... so take the first step today

- Contact the EEFF team at Tractebel Engineering...
  - EEFF Helpline - 031 224 8104, eeff@eeff.ro
- ... or visit us online
  - [www.eeff.ro](http://www.eeff.ro)
- ... or contact a participating bank\*



*\*BRD, BT and CEC Bank have already exhausted their EEFF funding or have only small amounts remaining. BCR, OTP and Raiffeisen may still finance investments up to the EEFF maximum of 2.5 million each.*



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