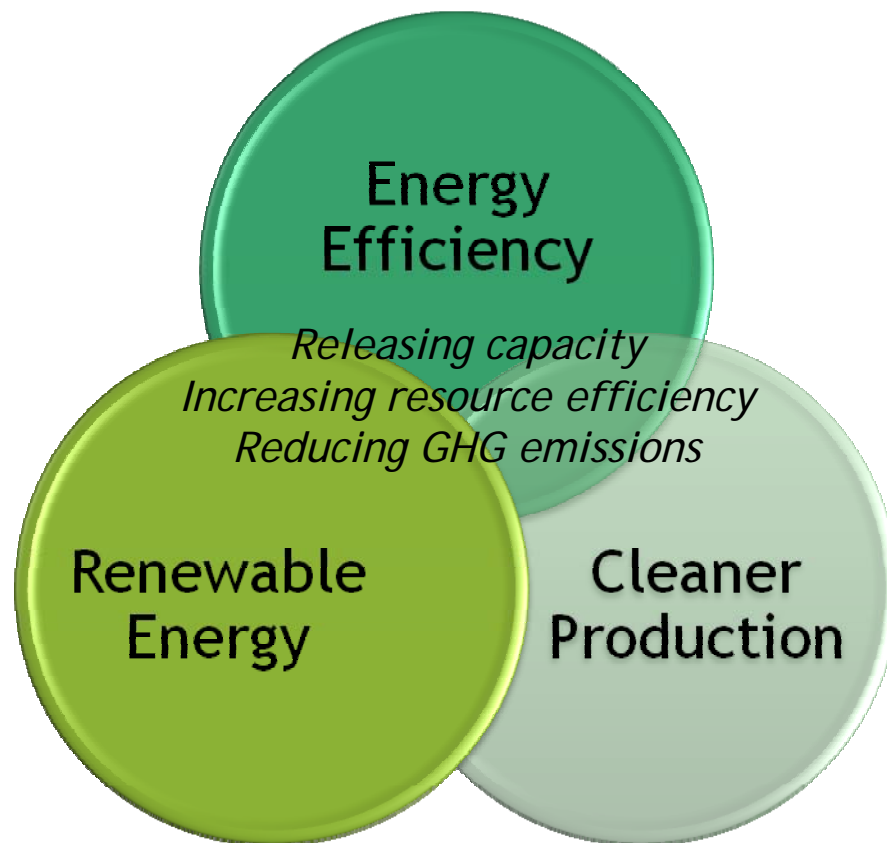


# Sustainable Energy Finance

## Where is the Business Opportunity for FIs

Russia Sustainable Energy Finance Program  
2010

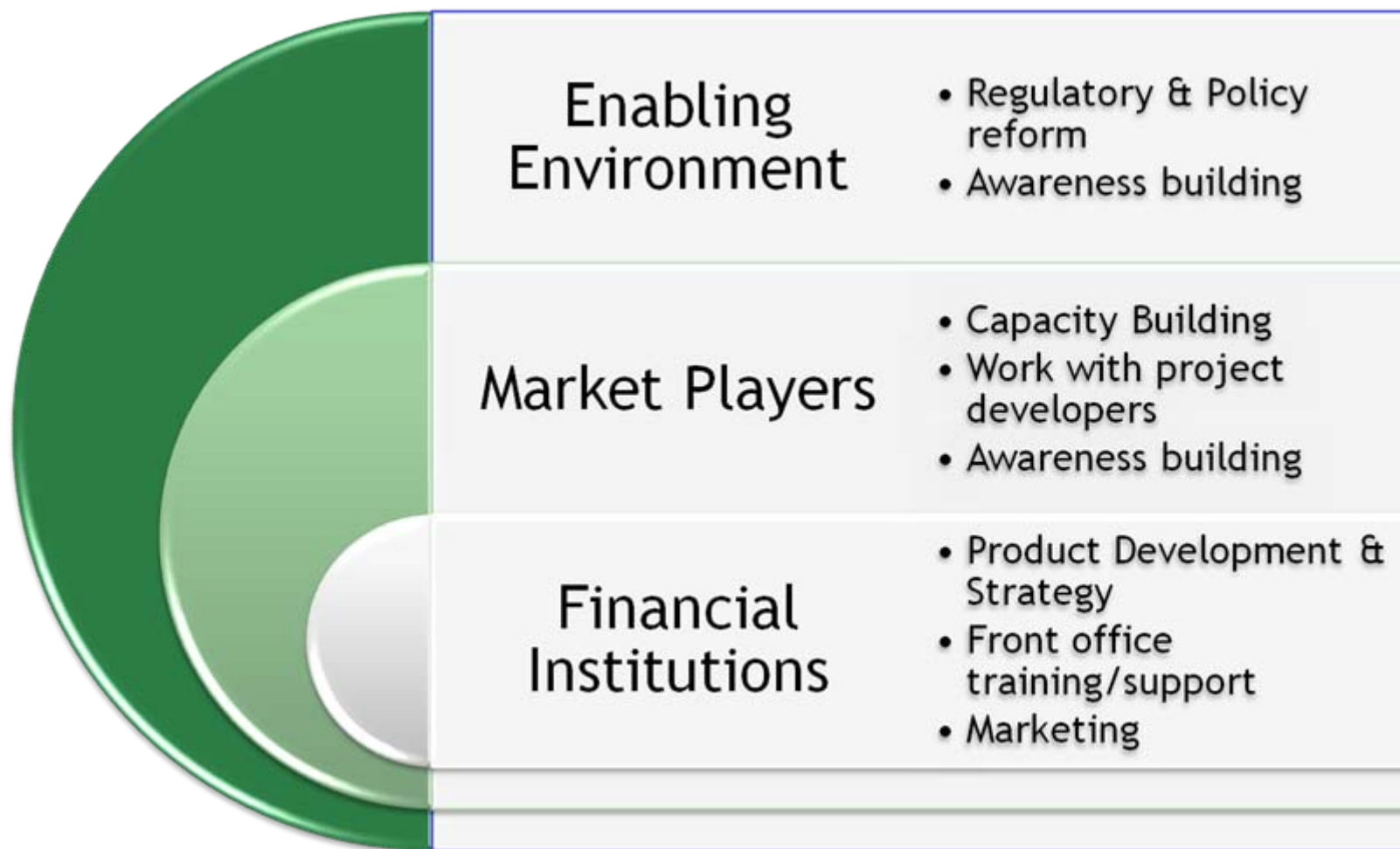
# Sustainable Energy Finance Overview



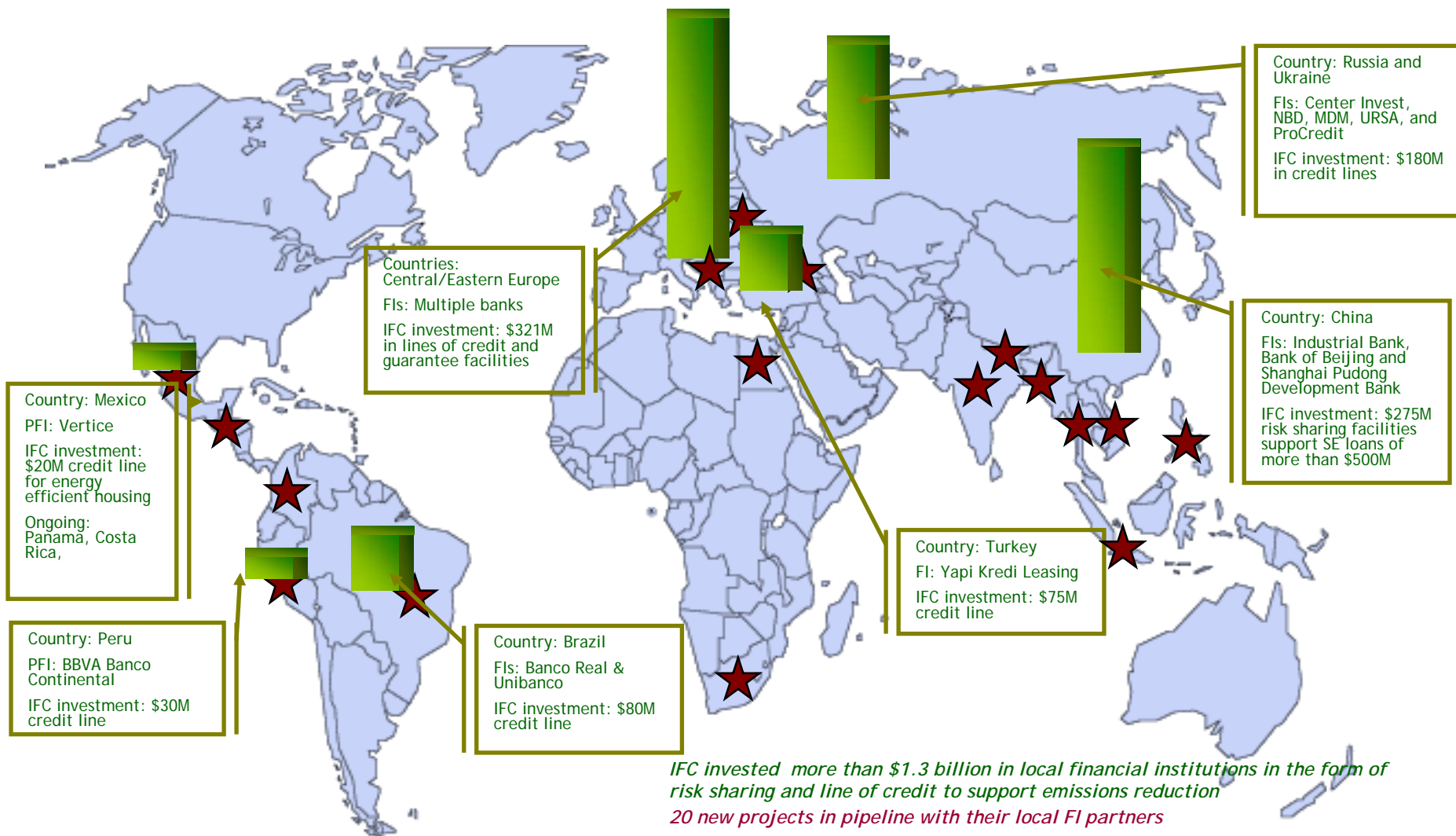
- Residential and industrial energy efficiency
- Waste/emissions minimization
- Energy from renewable sources

**Carbon Finance:** IFC looks at integration of carbon finance opportunities into these product lines

# Sustainable Energy Finance Overview



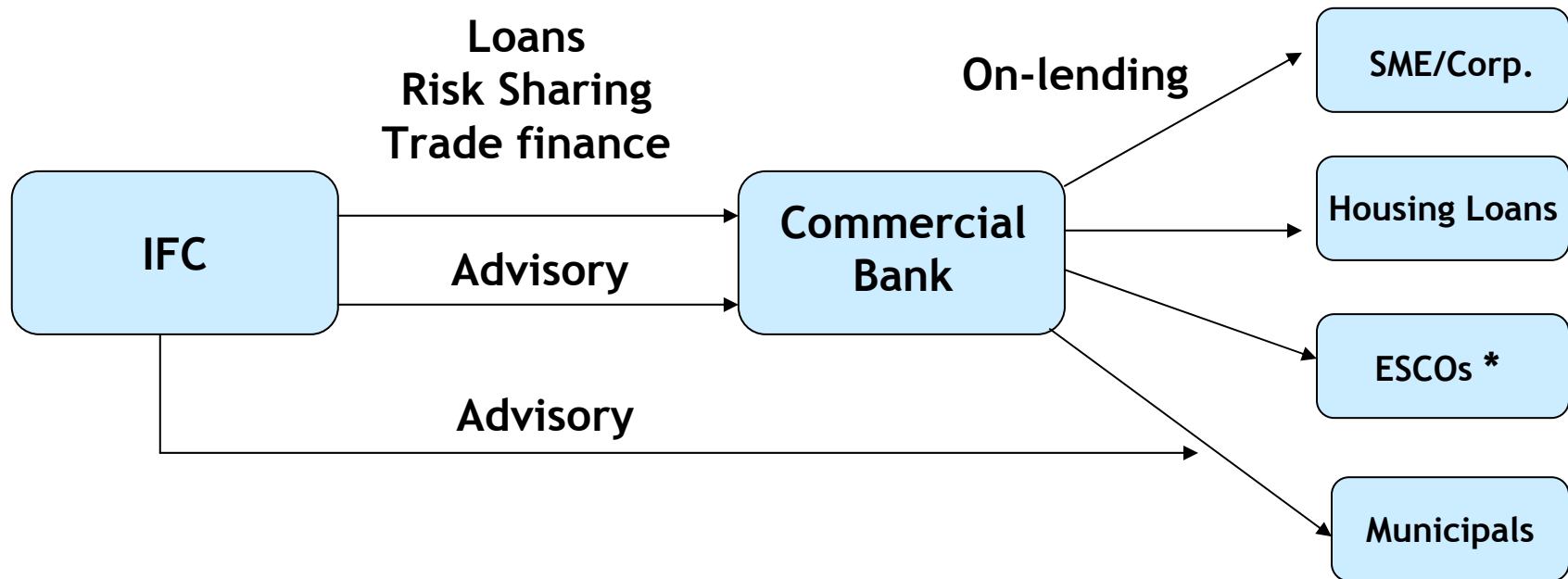
# IFC Sustainable Energy Investments via Fis



# Russian SEF Program

- **Nine** partner FIs:
  - Investment + AS: Center Invest (\$4M), NBD (\$8M), URSA/UVTB (\$53M), MDM (\$85)
  - AS only: TatfondBank, Absolut Bank, Independent Leasing, Prime Finance Bank, Agropromkredit Bank
- **154 projects / \$150M** worth financed:
  - \$30M of IFC funds
  - \$120M of non-IFC funds
- Annual energy savings over **\$37M**
- Greenhouse gas emission down by **415,000 tCO<sub>2</sub>** per year

# Wholesaling Through FIs: How do we work?



\*ESCO - Energy Service Companies

# Key Benefits for Financial Institutions

- **Expanded market share through new business line:**
  - Innovative product/first mover advantage
  - Sell on value to customer, not pricing
  - Monetize existing client base, attract quality new clients
  - New marketing channels through vendor partnerships
- **Improved risk profile of portfolio:**
  - Energy cost savings as a part of cash-flow
  - IFC risk sharing products
- **Positive social and environmental impacts:**
  - Enhanced brand reputation, PR opportunities

# AS Toolkit for Sustainable Energy Finance

- **Integration of the SEF model:**  
Product manual, assessment toolkit: energy efficiency calculator and user guide
- **Staff training**
- **Outsourcing of technical expertise**
- **Sales and Marketing activities:**  
Standard presentations, brochures, promo-campaigns, seminars for the clients, etc.
- **Transaction support** of the pilot deals/reporting



# Energy Efficiency Calculator

including VAT

Amount of loan/lease  EUR with effective interest  %

Term of financing  years

Non-energy profit  RUB

## Equipment

- ☐ Production (used for production purposes, i.e. oven, press, grinder, etc.)
- ☒ Generic energy (auxiliary equipment such as boilers, lighting, ventilation, etc.)
- ☐ Co-generation (projects involving CHP equipment)

### Before modernization

Description

Gas boiler manufactured in 1960s

Output

Gcal/h

Non-energy annual costs

RUB

### After modernization

Description

20 modular boilers by Viessman/Buderus/Weisshaupt

Output

Gcal/h

Non-energy annual costs

RUB

## Annual Energy Consumption

Resource  with cost  RUB ☒ including VAT per

### Before modernization

Annual volume

thou.m3

### After modernization

Annual volume

thou.m3

Simple payback 3,31 years

Annual annuity payment 6 778 580 EUR

Energy savings debt service contribution 57%

## Environmental Indicators

Annual GHG reductions 37 501 t CO<sub>2</sub> equiv./year

Lifetime GHG reductions 562 508 t CO<sub>2</sub> equiv./year

Investment / Ton GHG reduce 33 USD / t CO<sub>2</sub> equiv.

## Energy Saving Indicators

Annual energy savings 210 343 MWh

Investment / Unit energy saved 6 USD MWh

## Eligibility Criteria Indicators

Unit energy savings **Satisfies**



ROI from energy savings **Satisfies**

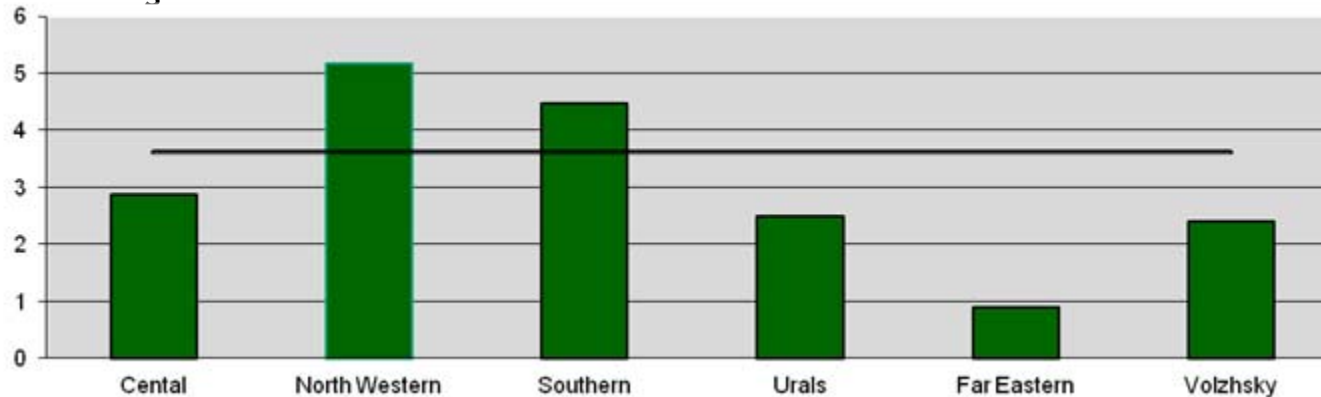


Verdict:

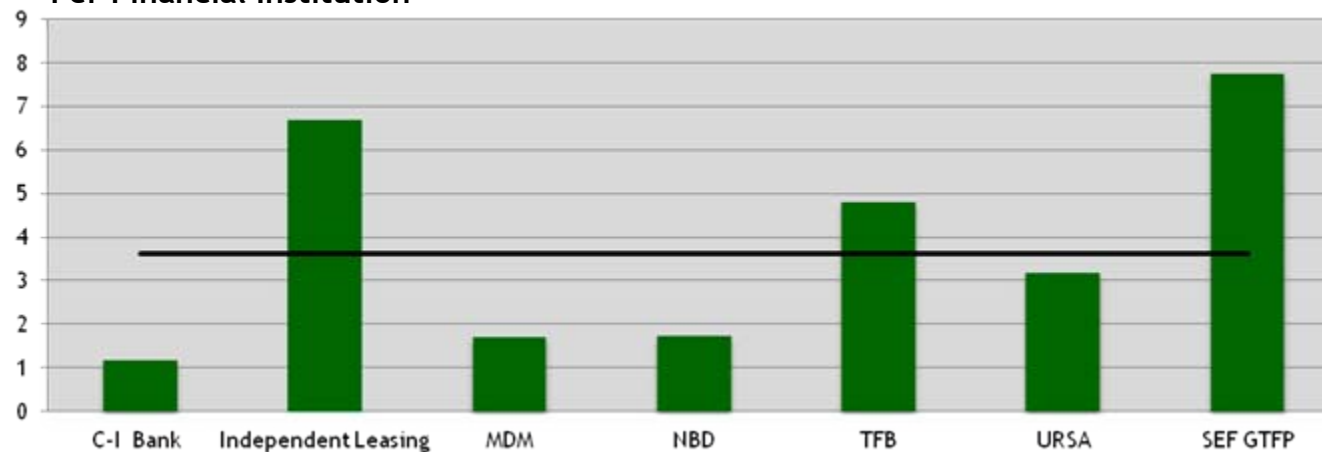
**Eligible**

# Annual avoidance of GHG - 3 tons per \$1 000 of IFC investments

Per Region



Per Financial Institution



# Potential assessment, large Russian bank

## Key segments



Assessment of portfolio by industries



Assessment by clients

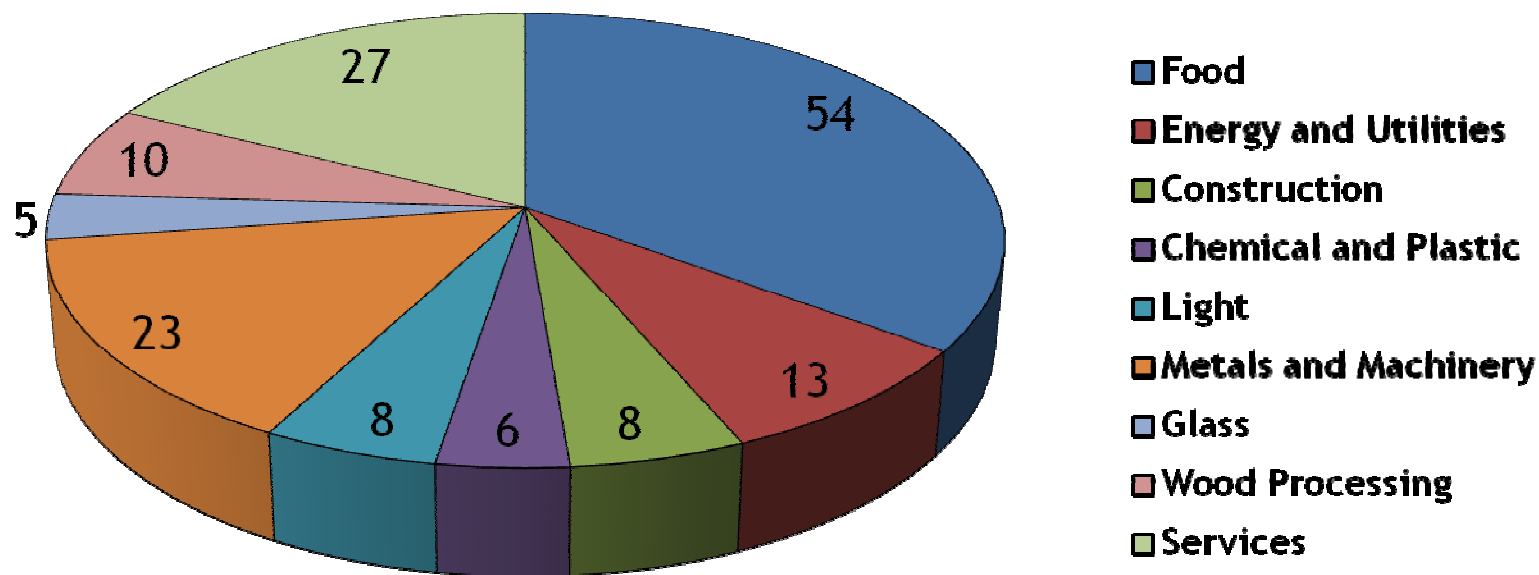
	% savings	Investment potential		Investment potential
Metallurgy	25%	\$ 400 mln	Industrial holding	\$ 200 mln
Energy/utilities	30%	\$ 330 mln	Machine building enterprise	\$ 230 mln
Oil and gas	30%	\$ 165 mln	Chemical holding	\$ 130 mln

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**TOTAL POTENTIAL : \$1.45 BLN**  
**GHG AVOIDANCE : 2+ mln t CO<sub>2</sub> eq / a**

Sources: Центральный банк, исследование IFC и Всемирного банка (2008),  
Исследование IFC (2007), годовые отчеты банка

# EE projects can be found in all sectors



The most popular in Russian portfolio are: Food, Services, Metals and Machinery and Wood Processing

# Russian project example: process equipment

- New automatic chocolate line at a **confectionary factory**
- Unit energy costs reduced by **33%**
- Dramatically improved **product quality**
- Huge increase in **output capacity**
- Investment: **\$233k**
- Payback: **2 years**



# Russian project example: renewable energy

- Boiler fueled by **sunflower seed husks**
- Annual **CO<sub>2</sub>** reduction of **10,600 tons**

Investment: **\$1.1 m**

Savings: **660,000 m<sup>3</sup>** of gas per month (**\$39k**)



## Contacts

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