

FINANCING ENERGY EFFICIENCY

EBRD EXPERIENCE IN CENTRAL AND EASTERN EUROPE

**JOSUÉ TANAKA
MANAGING DIRECTOR
ENERGY EFFICIENCY AND CLIMATE CHANGE**

**PREPARED FOR IEA WORKSHOP ON
FUELLING THE FUTURE WITH ENERGY EFFICIENCY
TOKYO 10 MAY 2012**

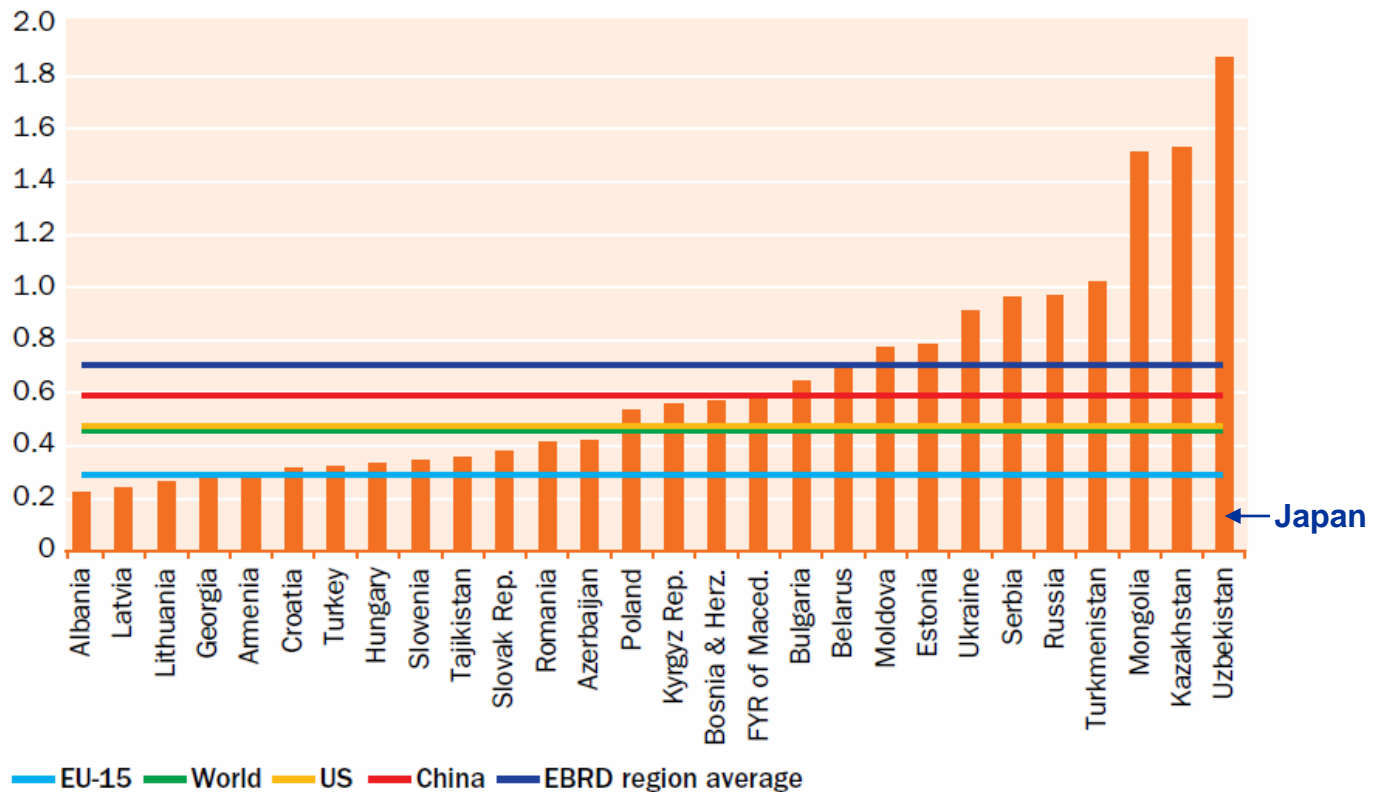


EBRD SUSTAINABLE ENERGY INITIATIVE

STRATEGIC AND BUSINESS RELEVANCE

Carbon intensity of GDP in 2008

Kg CO₂ per US\$ of GDP



Source: IEA, EBRD calculations.

Note: GDP in PPP exchange rates and 2000 prices.



EBRD SUSTAINABLE ENERGY INITIATIVE

SEI ACTIVITIES

SEI Phase 1 (2006 – 2008)



- Industrial Energy Efficiency
- Sustainable Energy Financing Facilities
- Power Sector Energy Efficiency
- Renewable Energy
- Municipal Infrastructure Energy Efficiency
- Carbon Markets Developments



SEI Phase 2 (2009 – 2011)

- Buildings energy efficiency
- Biomass
- Natural resources carbon emissions reduction
- Transport energy efficiency
- Climate change adaptation

EBRD SUSTAINABLE ENERGY INITIATIVE

SEI CUMULATIVE INVESTMENTS 2006 - 2011

- SEI business volume reached **€ 8.8 billion**, for a total project value of **€46.9 billion** in **464 projects**
- SEI investments accounted for **21%** of overall EBRD business volume over the period and **29%** for 2011
- Carbon emissions reduction reached **46 million tCO₂/year** equivalent to the CO₂ emissions of Switzerland



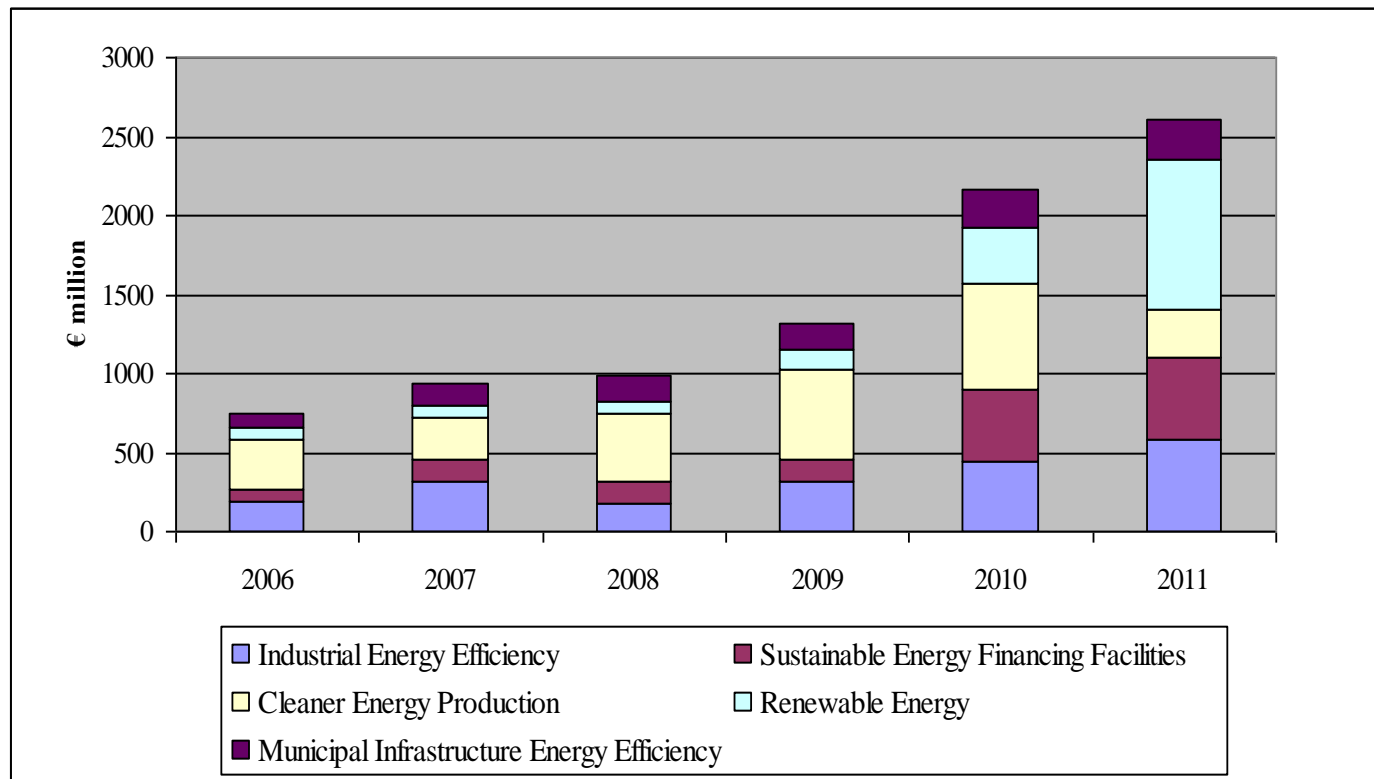
SEI FINANCING APPROACH

Builds on **three** complementary instruments:

- **Direct EBRD financing and syndication** for private or public sector projects seeking to maximise private sector financing while taking advantage of enabling market conditions and decreasing technology cost trends.
- Where necessary, **selective and smart use of subsidies** to address specific barriers and market failures in line with the guidelines developed by the Bank.
- Where possible, use **carbon finance or other market based systems** which can provide additional revenues to projects, building on skills and experience developed in context of Multilateral Carbon Credit Facility (MCCF). This includes technical support to Bank clients to structure transactions to benefit from carbon finance or similar mechanisms.



SEI INVESTMENT BY ACTIVITY AREA 2006 - 2011



FINANCIAL RETURNS OF EBRD ENERGY EFFICIENCY PROJECTS

Review of financial returns of EBRD energy efficiency projects across Central and Eastern Europe shows that:

- Average IRR of non-residential credit lines in range of 25% to 35% depending on sector mix and country.
- IRR of building energy efficiency projects lower than for industrial projects.
- Energy prices have major impact on financial returns with significant variations across countries.
- Technical experience at project level is key to define solutions generating high IRR and to translate technical gain in financial terms.



FINANCIAL RETURNS OF EBRD ENERGY EFFICIENCY PROJECTS

- IRR of pure energy efficiency investment (such as high efficiency electric motors) in range of 20% to 40%. Can be higher with higher electricity prices.
- Wide IRR range for energy savings from heat recovery between 10% for complex projects in countries with low gas prices to 60-70%.

Specific examples from EBRD energy efficiency investments in Ukraine:

- | | |
|---------------------------------------------------------------------------------------------|-----------|
| – Efficient bakery ovens and heat recovery. | IRR: 25% |
| – Modernisation of lighting and compressed air systems and heat recovery on exhaust air. | IRR: 50% |
| – Reduced energy use in greenhouses by optimising heating, irrigation and humidity systems. | IRR: 60% |
| – Nano-filtration technology for cheese production eliminating heat requirement. | IRR: 155% |

