



**International
Finance Corporation**
World Bank Group



Technologies for Sustainability and Energy Efficiency

IFC in Renewable Energy / Energy Efficiency Sector

Belgrade, June 2010

IFC - An Overview

IFC is a Member of the World Bank Group

IBRD
International Bank
for Reconstruction
and Development

Est. 1945

Role: To promote institutional, legal and regulatory reform

Clients: Governments of member countries with per capita income between \$1,025 and \$6,055.

Products:

- Technical assistance
- Loans
- Policy Advice

IDA
International
Development
Association

Est. 1960

To promote institutional, legal and regulatory reform

Governments of poorest countries with per capita income of less than \$1,025

- Technical assistance
- Interest Free Loans
- Policy Advice

IFC
International
Finance Corporation

Est. 1956

To promote private sector development

Private companies in 182 member countries

- Equity/Quasi-Equity
- Long-term Loans
- Risk Management
- Advisory Services

MIGA
Multilateral
Investment and
Guarantee Agency

Est. 1988

To reduce political investment risk

Foreign investors in member countries

- Political Risk Insurance

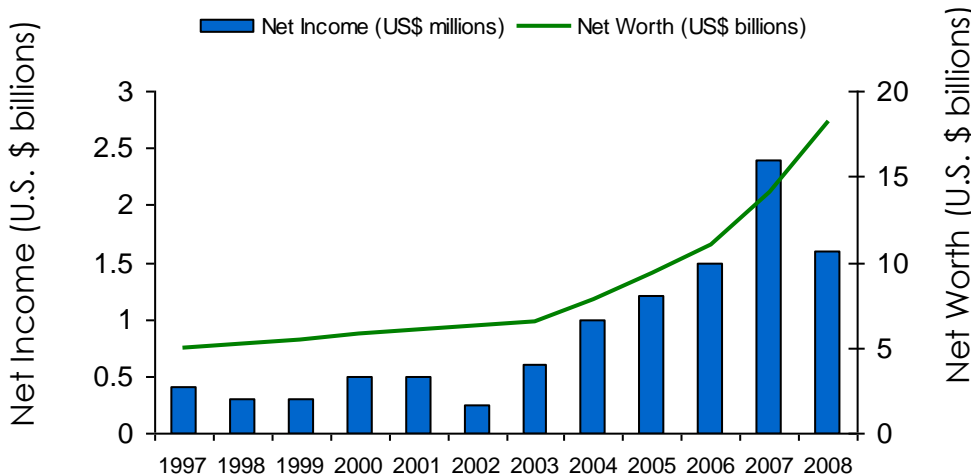


Shared Mission: To Promote Economic Development and Reduce Poverty



IFC - over \$80 billion Invested in Emerging Markets since 1956

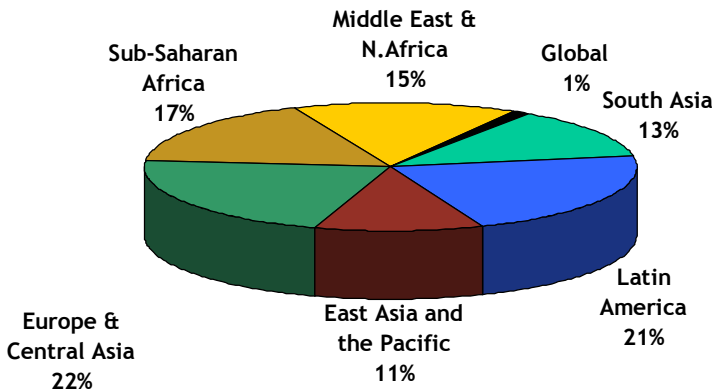
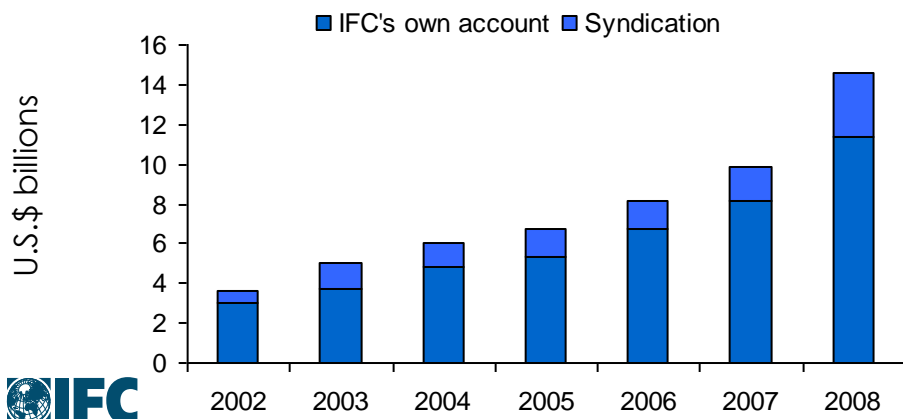
IFC's Net Income and Net Worth



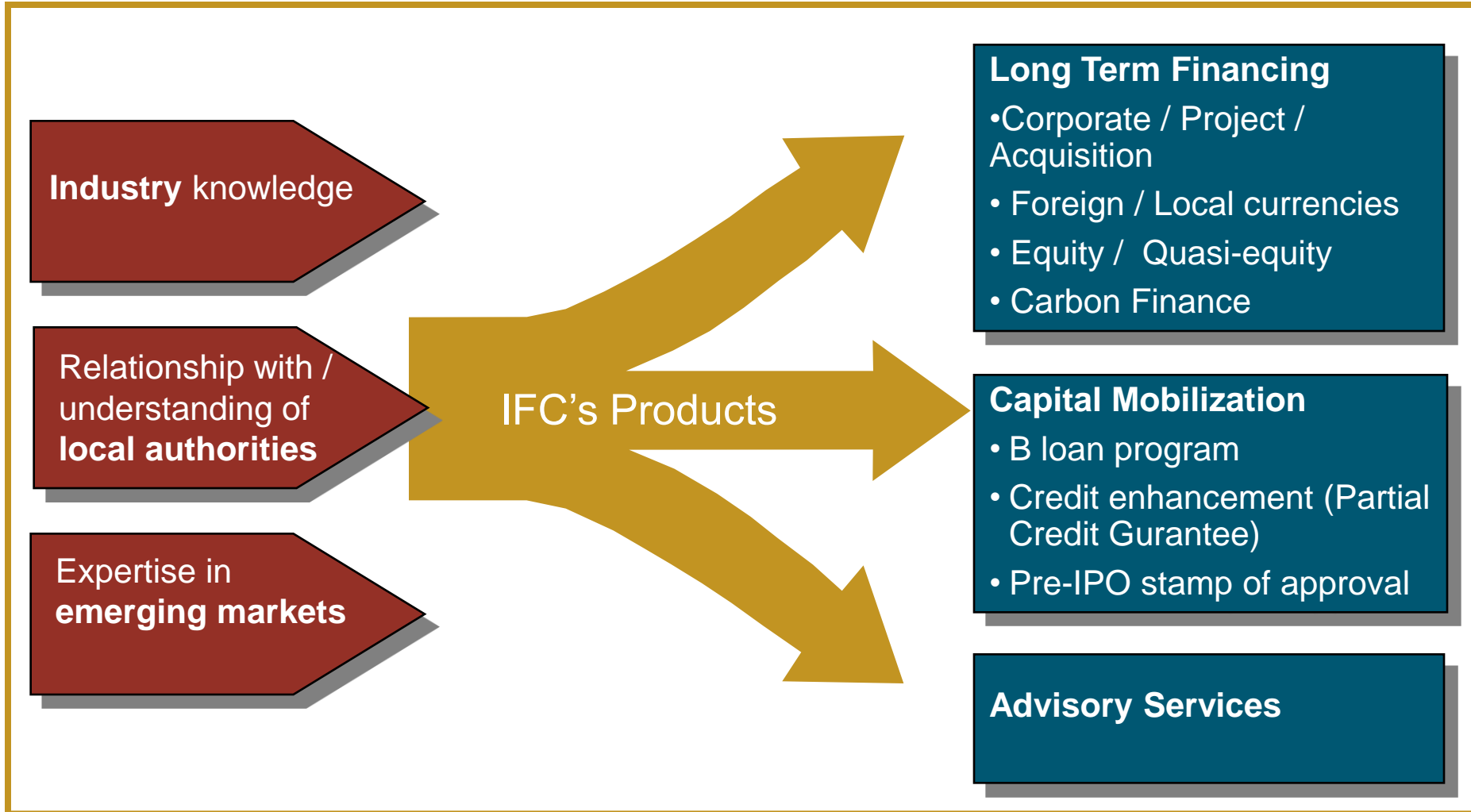
IFC FY08 Highlights

S&P, Moody's	AAA
Portfolio	\$32.4 billion
Committed	\$11.4 billion
Syndicated	\$3.3 billion
# of companies	1,450+
# of countries	85+
# of companies with equity	800+

Total committed IFC financing: US\$14.7 billion



IFC Value Added



IFC in Europe & Central Asia




IFC's Europe & Central Asia (ECA) Region

- **Albania**
- Armenia
- Azerbaijan
- Belarus
- **Bosnia and Herzegovina**
- Bulgaria
- Croatia
- Estonia
- Georgia
- Kazakhstan
- Kyrgyz Republic
- **Macedonia**
- Moldova
- **Montenegro**
- Romania
- Russian Federation
- **Serbia**
- Slovak Republic
- Tajikistan
- Turkey
- Turkmenistan
- Ukraine
- Uzbekistan

- IFC's regional head offices are located in Istanbul and Moscow, with representative offices in other countries
- In FY09, IFC invested \$ 2.99 billion in Europe and Central Asia, including \$ 841 million of syndications.

IFC Approach to Financing

How We Finance Projects

Project Type		IFC Investment
Greenfield, total cost less than \$50 million		Up to 35% of project cost for IFC's account
Greenfield, total cost more than \$50 million		Up to 25% of project cost for IFC's account
Expansion or rehabilitation		Up to 50% of project cost

- Umbrella for participants in IFC's syndication program: IFC lender of record, immunity from taxation and provisioning requirements.
- IFC's total financing (for its own account) must be less than 25% of total company capitalization, and IFC does not manage or have largest stake.

Financial Products - From Equity to Debt

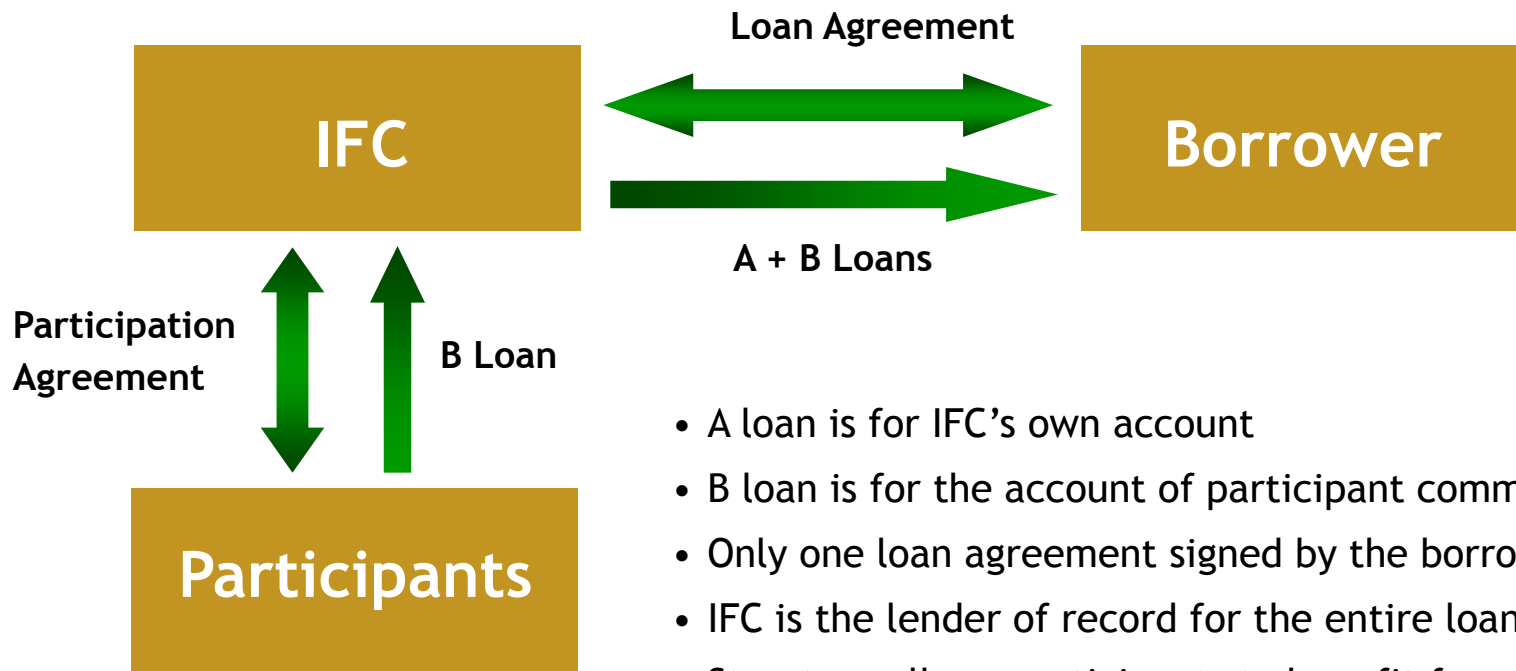


- Corporate and JV
- Typically 5-15% shareholding (not to exceed 20% of total equity)
- Long-term investor, typically 6-8 year holding period
- Not just financial investor, adding to shareholder value
- Usually no seat on board
- Infraventures (early equity investments)

- Subordinated loans
- Income participating loans
- Convertibles
- Other hybrid instruments

- Senior Debt (corporate finance, project finance)
- Fixed/floating rates, US\$, Euro and local currencies available
- Commercial rates, repayment tailored to project/company needs
- Long maturities: 8-20 years, appropriate grace periods
- Range of security packages suited to project/country
- Mobilization of funds from other lenders and investors, through cofinancings, syndications, underwritings and guarantees

Mobilizing Financing - Syndication “B-Loan” Structure



- A loan is for IFC’s own account
- B loan is for the account of participant commercial banks
- Only one loan agreement signed by the borrower and IFC
- IFC is the lender of record for the entire loan (A+B)
- Structure allows participants to benefit from IFC privileges and immunities
- Better pricing/tenors than otherwise available; preferred creditor access to foreign exchange
- IFC Loans exempt from withholding taxes

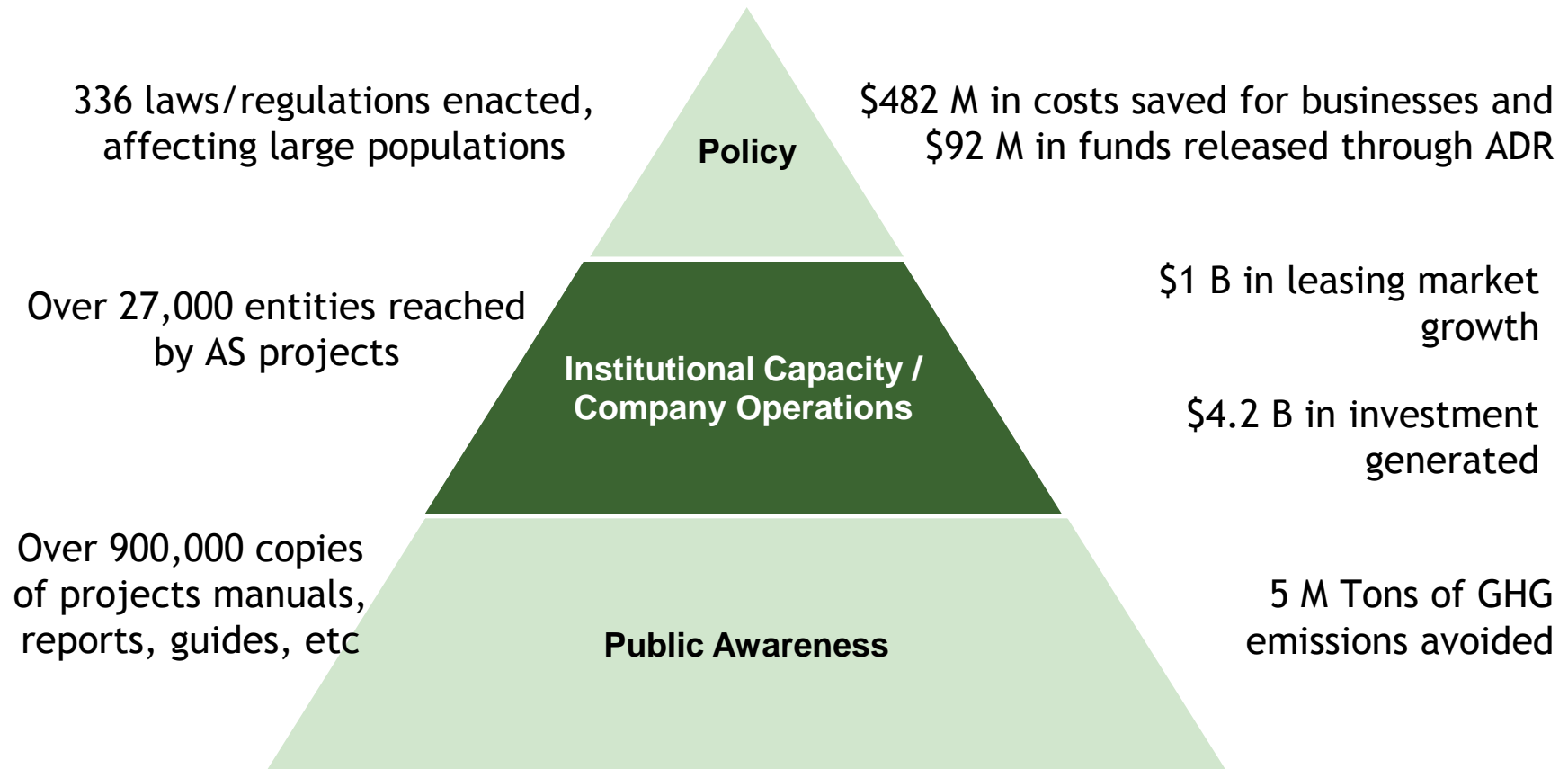
IFC Advisory Services

IFC Advisory Services in Europe & Central Asia

Broad reach ←



Significant Impact



Cross-cutting approach to Climate Change in FY11-15

Access to Finance

- Energy Efficiency Finance
 - Residential EE
 - Small Hydro



Infrastructure

- Energy Sector
- Waste Sector
- Water Sector



Corporate Advice

- Water Footprinting



Sustainability

- Cleaner Production
- Renewable Energy
 - Utility efficiency



FY11-15 Targets

- Avoid at least 15 million tons of lifetime GHG emissions
- Generate \$1 billion in climate change related investments, including from IFC
- Unlock at least \$20 billion in private sector participation in areas such as renewable energy, cleaner production, residential energy efficiency, water and waste management



IFC in the Energy Sector

IFC's Track Record in Power

Projects:

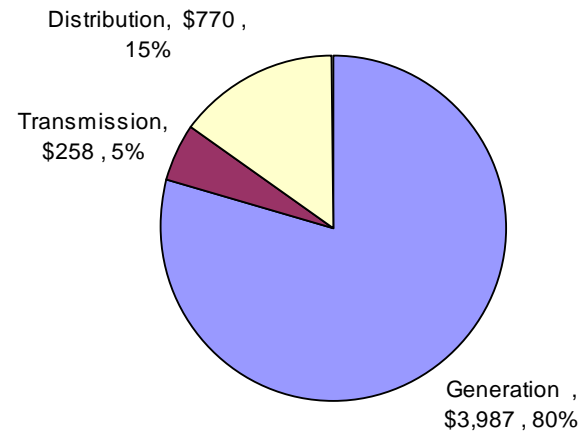
- 120 projects in 40 emerging markets countries
- 21,733 MW private generating capacity
- 94 generation projects
- 7 transmission projects
- 19 distribution companies

Financing:

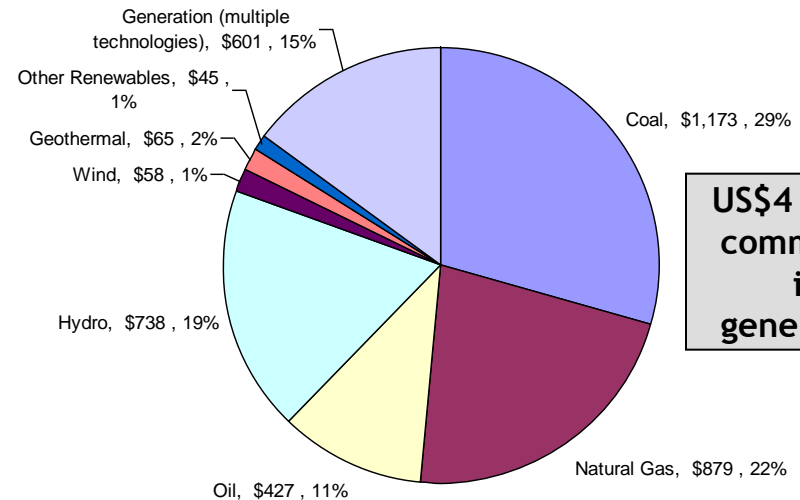
- \$ 5 billion committed in generation, T & D
- \$ 2.5 billion raised through syndication
- \$ 22 billion aggregate project values

Renewables:

- 19% of generation investments in hydropower
- \$0.9bn in 30 renewable energy projects (20 hydro, 2 wind, 2 geothermal & 6 other)



US\$5 billion committed in power



US\$4 billion committed in generation

Addressing Climate Change is one of IFC's 5 Strategic Priorities

- IFC has committed to expand Renewable Energy and Energy Efficiency investments threefold (3x) to over US\$3bn in FY09-11
- IFC is piloting shadow pricing analysis to incorporate climate change considerations into all investments
- IFC is developing its response to support its clients in their efforts at adapting to climate change

And IFC has strong and differing role in supporting each renewable technology

Hydro

Wind

Biomass

Solar

Geo

EE

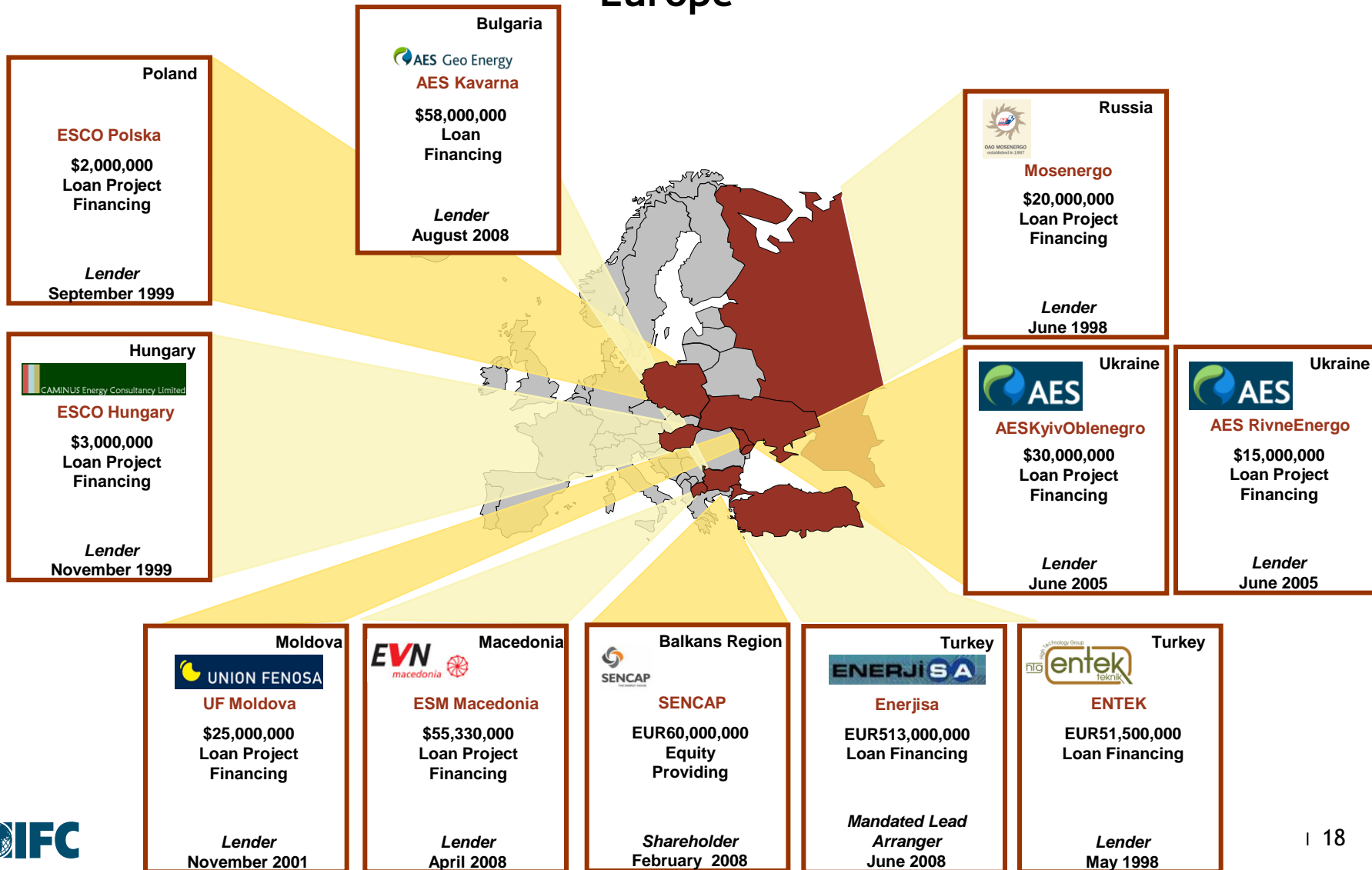
Characteristics

- | | | | | | |
|---|---|---|---|--|--|
| <ul style="list-style-type: none"> • Established and cost competitive technology • Large hydros have long development time • Dams offer baseload • Potential for local E&S issues | <ul style="list-style-type: none"> • Established technology • Economics very site specific • Variable generation • Dependent on suitable regulatory support | <ul style="list-style-type: none"> • Technology risk varies with fuel type • Long-term access to low cost fuel essential • Opportunities for co-firing and co-generation | <ul style="list-style-type: none"> • PV still expensive but costs declining quickly • CSP w/ storage offers potential for low cost base load • Potential for grid and distributed generation | <ul style="list-style-type: none"> • Established and cost competitive baseload technology • High exploration risks and long lead times to develop steam fields | <ul style="list-style-type: none"> • Profitable opportunities exist in generation, T&D and end use • Opportunities can be diffuse and require identification and aggregation |
|---|---|---|---|--|--|

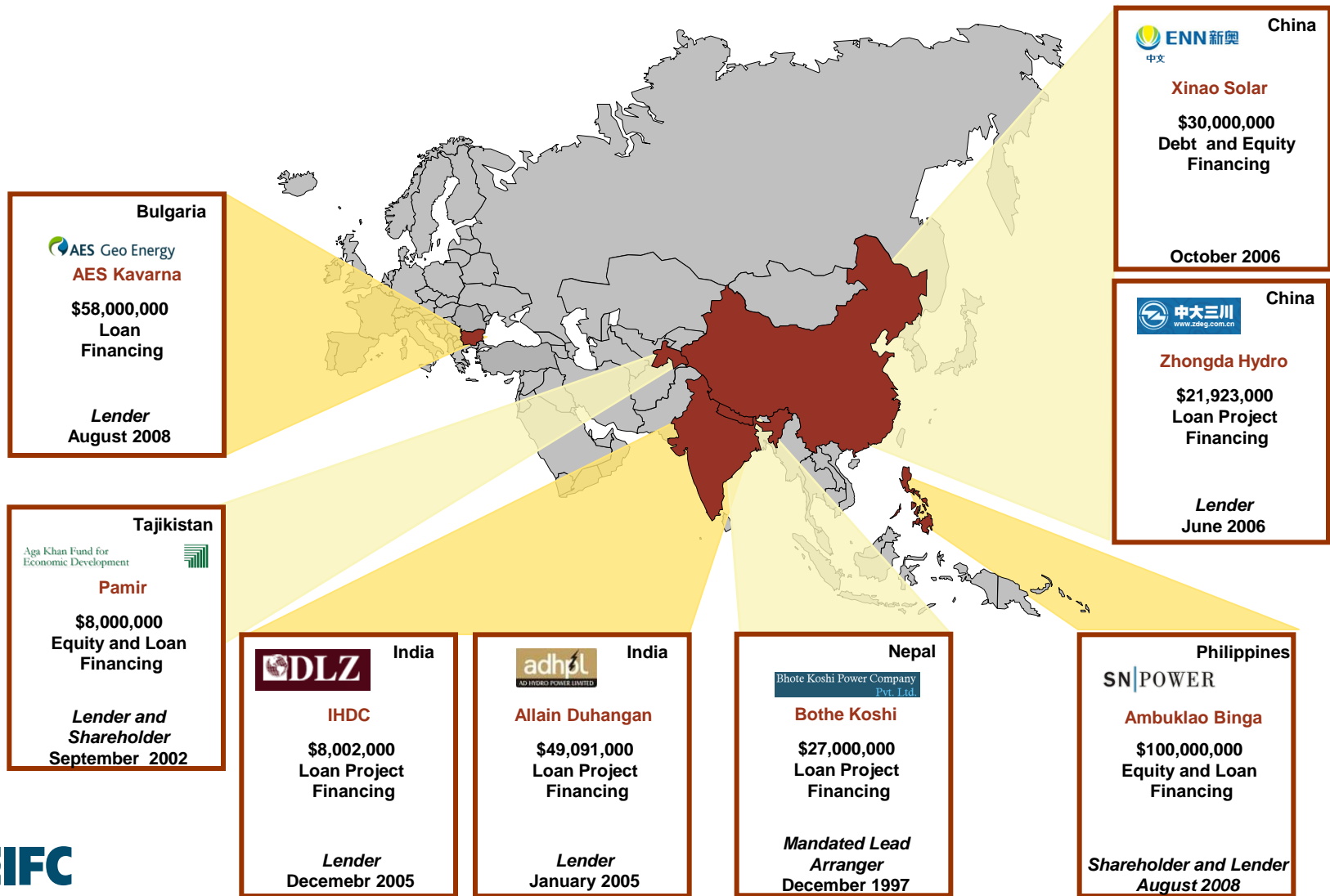
IFC Role & Comp. Adv

- | | | | | | |
|---|---|---|--|---|--|
| <ul style="list-style-type: none"> • Taking construction risk • Providing long-tenors to match asset life • Innovative bundling for small hydros • Ensuring best practice E&S | <ul style="list-style-type: none"> • Supporting projects in new markets & new regulations • Structuring to support intermittent generation & merchant risk • Supporting supply chain expansion to reduce costs | <ul style="list-style-type: none"> • Structuring fuel supply agreements to enable project finance • Understanding technology risk | <ul style="list-style-type: none"> • Supporting supply chain expansion to reduce costs • Supporting projects in new markets and new regulatory regimes • Coordinating concessionary funding to buy down costs | <ul style="list-style-type: none"> • Early stage equity and concessionary funding to share exploration risk • Sector expertise and innovative structuring to enable project financing | <ul style="list-style-type: none"> • Identifying and incorporating EE opportunities in all projects • Coordinating concessionary support to identify and package opportunities for clients |
|---|---|---|--|---|--|

Investments in the power sector in Southern and Eastern Europe



Investments in the renewable energy sector in Europe and Asia





IFC AS Program

Renewable Energy in the Western Balkans with a Focus on Small Hydro Power Plants

Program Basics

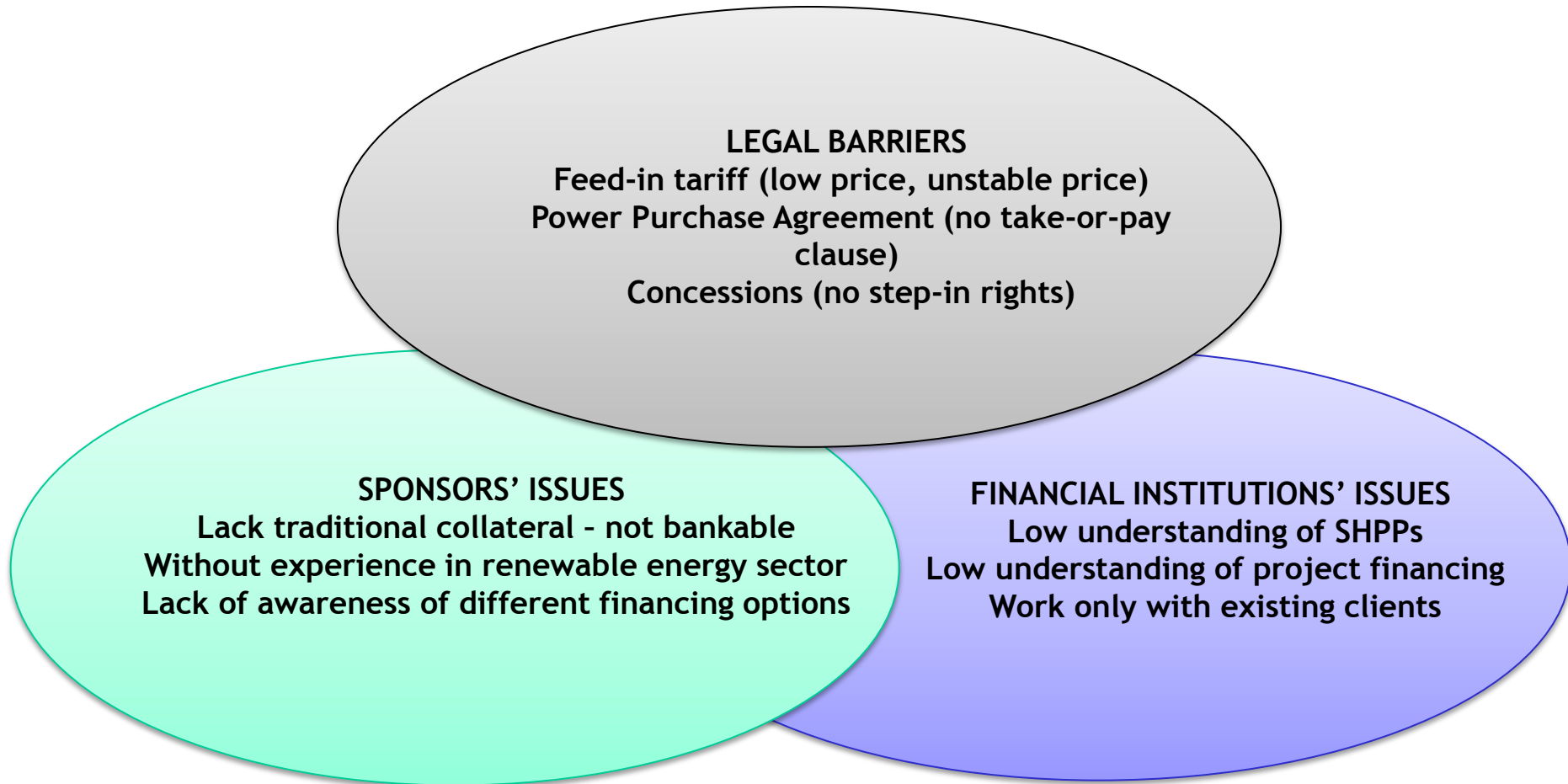
Donor	Austrian Ministry of Finance (BMF)
Length	5 years (Jan'10 - Dec'15)
Region /Countries	Western Balkans /Albania, BIH, FYR Macedonia

Key objectives:

- ✓ Improve regulatory framework to enable SHPP market
- ✓ Capacity building with developers to improve SHPP designs and business plans
- ✓ Increase access to finance - Improve the FI capacities on SHPP and project financing; Provide IFC financing to FIs for SHPP projects lending



Identified Barriers to SHPP Development



IFC AS Project

Residential Energy Efficiency in Albania

Residential Energy Efficiency Project (REEP) - Albania

Key objective

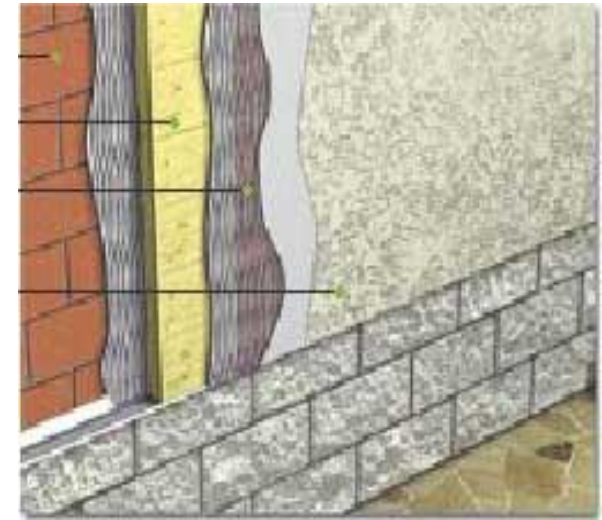
- ✓ To reduce energy consumption in Albania through the introduction of residential energy efficiency micro loans

What have we done so far

- ✓ Prepared PBGI model for project implementation
 - ✓ Signed agreements with three local banks
 - ✓ Prepared HEEL software
 - ✓ Prepared manuals, leaflets and questionnaire
- ✓ Also tools and documents localized (language and inputs)

Opportunities and challenges

- ✓ To facilitate \$28M working with 3-5 FIs; to save energy of 24,500 MWH/year and to avoid GHG emission of 30,000 tons CO₂e/year.
- ✓ To provide sectorial support (with GTZ) improving legislation and introducing energy labels for buildings
- ✓ Lack of tenants' interest to invest in EE; Lack of state administration to support EE, Donor competition.



BANKA CREDINS		Banka Credins Head office: Ismail Gernali 21 Tirana, Albania Phone: +355 (4) 2234 096 Fax: +355 (4) 2222 916 WEB: www.bankacredins.com		Page 1	English
Energy efficiency project Family house Dures Street 1 Petau Petrovic					
Branch Office		Project status			
Address	Tirana, Ismail Gernali 21	Status	Date	Loan Officer	
Phone	04 2234 096, 04 2233 912	Project date	04.2010	Nebisa Aronjaj	
Fax	04 2222 916	Loan requested			
E-mail	info@bankacredins.com	Loan Approved			
Loan user data		Project data			
First name	Petar	Project type	Family house		
Surname	Petrovic	Ownership	Premises owner		
Country	Durres	Country	Durres		
District	Durres	District	Durres		
Municipality	Durres	Municipality	Durres		
Address	Durres Street 1	Address	Durres Street 1		
Phone	01 11112	Resident area (m ²)	1 200	# of apartments	1
Mobile	02 22222	Total heated area (m ²)	400	# of persons	10
E-mail	petar@petar.com	Number of floors	2	Construction yr	1990
Project release		Energy efficiency measure			
Floor insulation		Equipment (ALL)	Installat. (ALL)	Total (ALL)	
Walls insulation					
Roof insulation					
Recent new edition					

IFC AS Project

Previous Residential Energy Efficiency Projects

Residential Energy Efficiency - Previous (preparation)

EXAMPLES OF PREVIOUS PROJECTS

EKI BiH v.03 **Step 2 of 2**
 a simple calculation tool for estimating savings of energy efficiency measures

Rural House Demonstration, Project address, 123456 BiH by EKI loan officer 14.11.2006

Planned energy saving measures

Heating system after ESMs
 Heating system after ESMs Individual coal ▼

Improvements for HOUSES	Planned	Estimated units	Unit	Unit price, BAM	Investment cost, BAM	Energy saving MWh/a	Energy saving BAM/a	Payback estimate, years
Replacing of old windows with new windows	Yes	10	window m ²	100.0	1,000	0.9	17	59
Tightening of windows and front door	No	10	window m ²	3.0	0	0.0	0	0
Glassing and insulating of balconies	No	5	glassing m ²	65.0	0	0.0	0	0
Roof reconstruction and insulations	No	70	roof m ²	20.0	0	0.0	0	0
Attic and basement insulations	Yes	55	ceiling m ²	15.0	825	7.5	140	6
External insulation of facades	Yes	150	facade m ²	22.0	3,304	27.4	508	6
Replacing of old radiators with new radiators	No	10	radiator	180.0	0	0.0	0	0
Replacing or adding thermostatic valves	No	10	valve	60.0	0	0.0	0	0
Heating system reconstruction in the building	No	100	living m ²	15.0	0	0.0	0	0
Replacing of old boiler with new boiler	No	1	boiler	5,000.0	0	0.0	0	0
Replacing heat substations, heat exchangers	No	1	substation	10,000.0	0	0.0	0	0
Waterpipes refurbishment	No	100	living m ²	5.0	0	0.0	0	0
Changing from 4-pipe to 2-pipe system	No	1	substation	5,000.0	0	0.0	0	0
Adding heat recovery system in ventilation	No	100	living m ²	5.0	0	0.0	0	0
Total					5,129	35.8	665	8

Current estimate based on average factors			
Heat consumption	70.0 MWh	Estimated CO ₂ -emissions	38,520 kgCO ₂
Electricity consumption	11.1 MWh	Estimated CO ₂ -emissions	1,330 kgCO ₂
Estimated total energy consumption	81.2 MWh	Estimated total CO ₂ -emissions	39,850 kgCO ₂

Calculated estimates for annual savings

How to use this sheet

< Select the heating system after the planned energy saving measures.

< Select Yes or No for EACH improvement row. Estimated units are estimated with average factors. Estimated units and improvement unit prices are linked from the Defaults sheet.

< These values are calculated with national average factors. Keep this in mind when evaluating the results.



www.procreditbank.co.yu



KREDITI ZA UŠTEDU ENERGIJE

Unapredite kvalitet života i poslovanje Vašeg preduzeća kreditima za uštedu energije ProCredit banke uz podršku Međunarodne finansijske korporacije (IFC)

Namene kredita:

Zamena prozora, radijatora, cevi, kotlova, rasvete; priključivanje na gasnu mrežu, dvocevni sistem grejanja...; rekonstrukcija grejanja, krova...; nabavka Stedljivih uređaja (A, A+, A++, „Energy Star“); izolacija zidova, krova, potkrovlja, podruma, terasa, vrata i prozora; ugradnja gasnog pogona za vozilo ili vozni park...

Kredit za uštedu energije za fizička lica

Namenjeni su fizičkim licima u stalnom radnom odnosu, vlasnicima radnji i preduzeća i poljoprivrednim proizvođačima.

Odobravaju se u roku od 3 dana, u iznosu do 20.000 EUR, sa rokom otplate do 7 godina, uz 20% učešća/depozita (može se izdvojiti iz odobrenog kredita).

Krediti do 10.000 EUR: bez žiranta i zaloga.
 Krediti od 10.000 do 20.000 EUR: jedan žirant i/ili obezbeđenje u vidu pokretne i nepokretne imovine.

Kredit za uštedu energije za pravna lica

Namenjeni su pravnim licima, preduzetnicima i poljoprivrednim gazdinstvima.

Iznos kredita zavisi od kreditne sposobnosti klijenta, sa rokom otplate do 60 meseci.

Krediti do 10.000 EUR: bez žiranta i zaloga.
 Krediti od 10.000–25.000 EUR: jedan žirant ili zalog.
 Krediti od 25.000–100.000 EUR: jedan žirant i zalog u vidu pokretne ili nepokretne imovine.

ProCredit banka izlazi u susret i klijentima čije investicione potrebe prevazilaze iznose od 100.000 EUR.

INFO - TELEFON:



International Finance Corporation

Svet pokrećemo zajedno



Residential Energy Efficiency - Previous (results)

IMPACT ASSESSMENT

	# of loans disbursed	Loans disbursed	GHG emission reduced	Energy savings achieved
		(EUR)	(tons/y)	(MWh/y)
Housing EE	8,203	23,906,160	30,965	39,253
- ProCredit (SRB)	7,402	19,641,953	21,600	26,560
- EKI (BIH)	330	1,030,451	1,930	3,155
- Raiffeisen (BIH)	471	3,233,756	7,435	9,538

