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## Mobilizing Commercial Lending for Energy Efficiency/ Renewable Energy Projects: IFC's Evolving Approach

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MINISTRY OF  
TRADE AND  
INDUSTRY



# Agenda

**Chronology**

**Commercializing Energy Efficiency Finance**

**Russia Sustainable Energy Finance**

**China Utility-based Energy Efficiency**

**Discussion**

# Chronology of Programs

## **1997 Hungary Energy Efficiency Co-Financing Program (HEECP)**

**Entirely donor funded: partial credit guarantee plus advisory services**

## **2001 HEECP2**

**IFC contributes \$12 million from its own funds**

## **2003 Commercializing Energy Efficiency Finance Program (CEEF)**

**Roll-out to Czech Republic, Slovakia, Lithuania, Latvia, Estonia**

## **2005 Merger of HEECP & CEEF**

**One unified regional Energy Efficiency Program (CEEF)**

## **2005 Russia Sustainable Energy Finance program (RSEFP)**

**Financial product is credit lines plus extensive advisory program**

## **2006 China Utility based Energy Efficiency program (CHUEE)**

**Risk sharing facility plus advisory**



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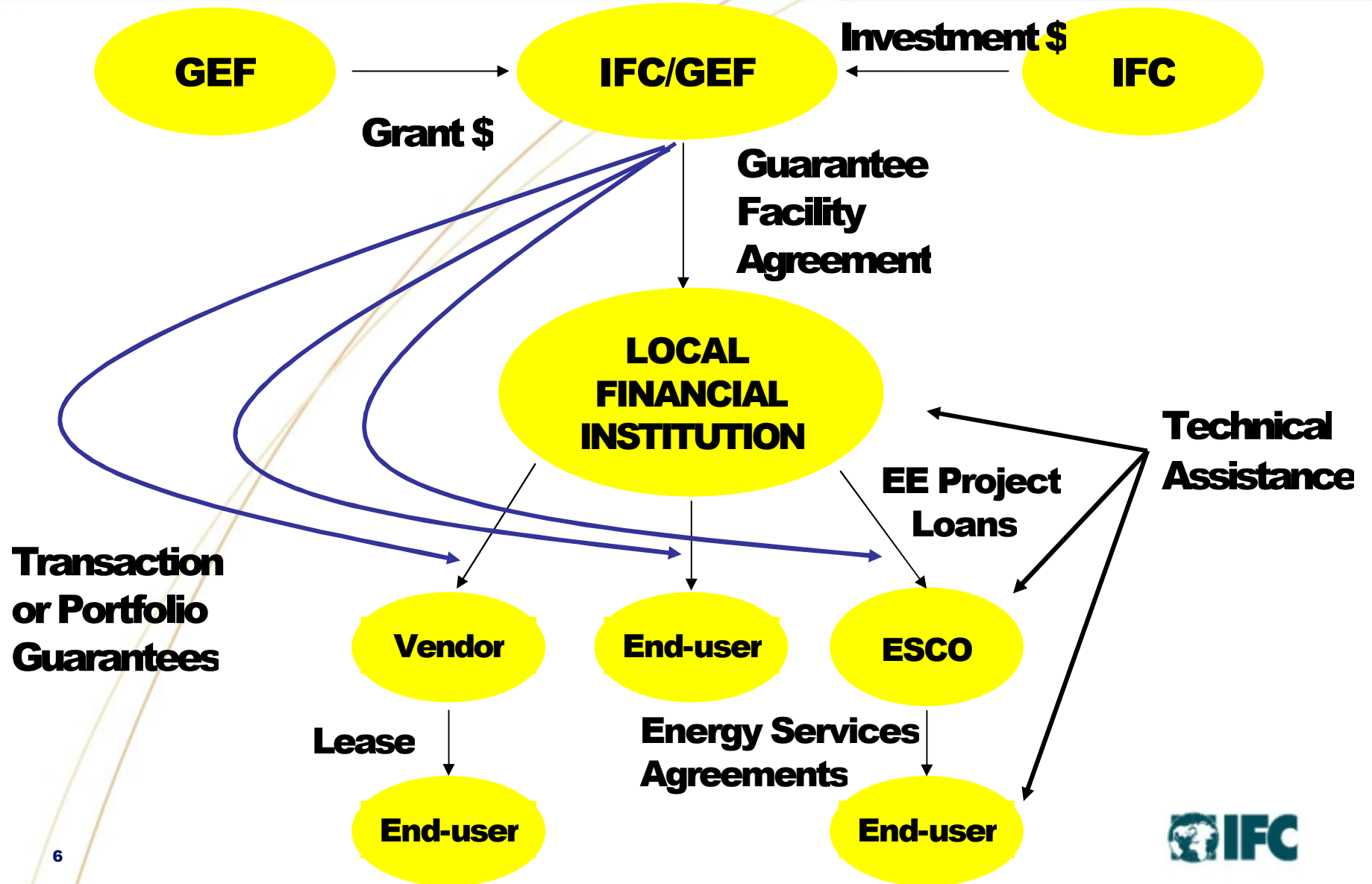
# COMMERCIALIZING ENERGY EFFICIENCY FINANCE



# CEEF Program Objectives

- **Mobilization of commercial funding for energy efficiency investments by way of specialized banking instruments (Guarantee Program)**
- **Capacity building, market development and targeted technical assistance to FIs, ESCOs and End-Users (Technical Assistance Program)**
- **Awareness raising and other EE marketing activities**
- **Up-scaling business: development of financing structures that can be replicated and offered to developing countries for large scale lending (mainstreaming)**

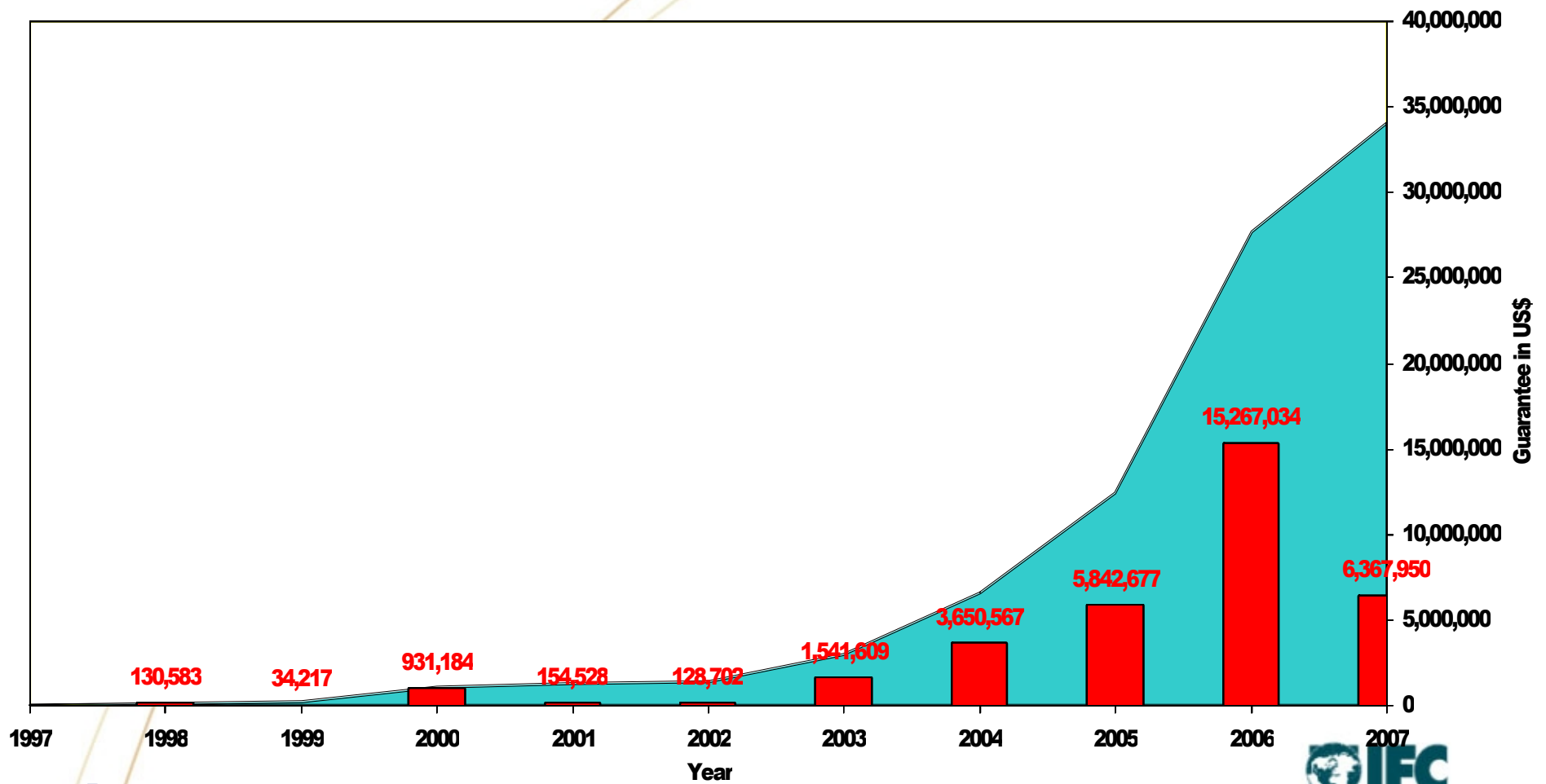
# Guarantee Program Structure



# Program Achievements

## CEEF Guarantees 1997- 2007

(as of 26 January 2007)

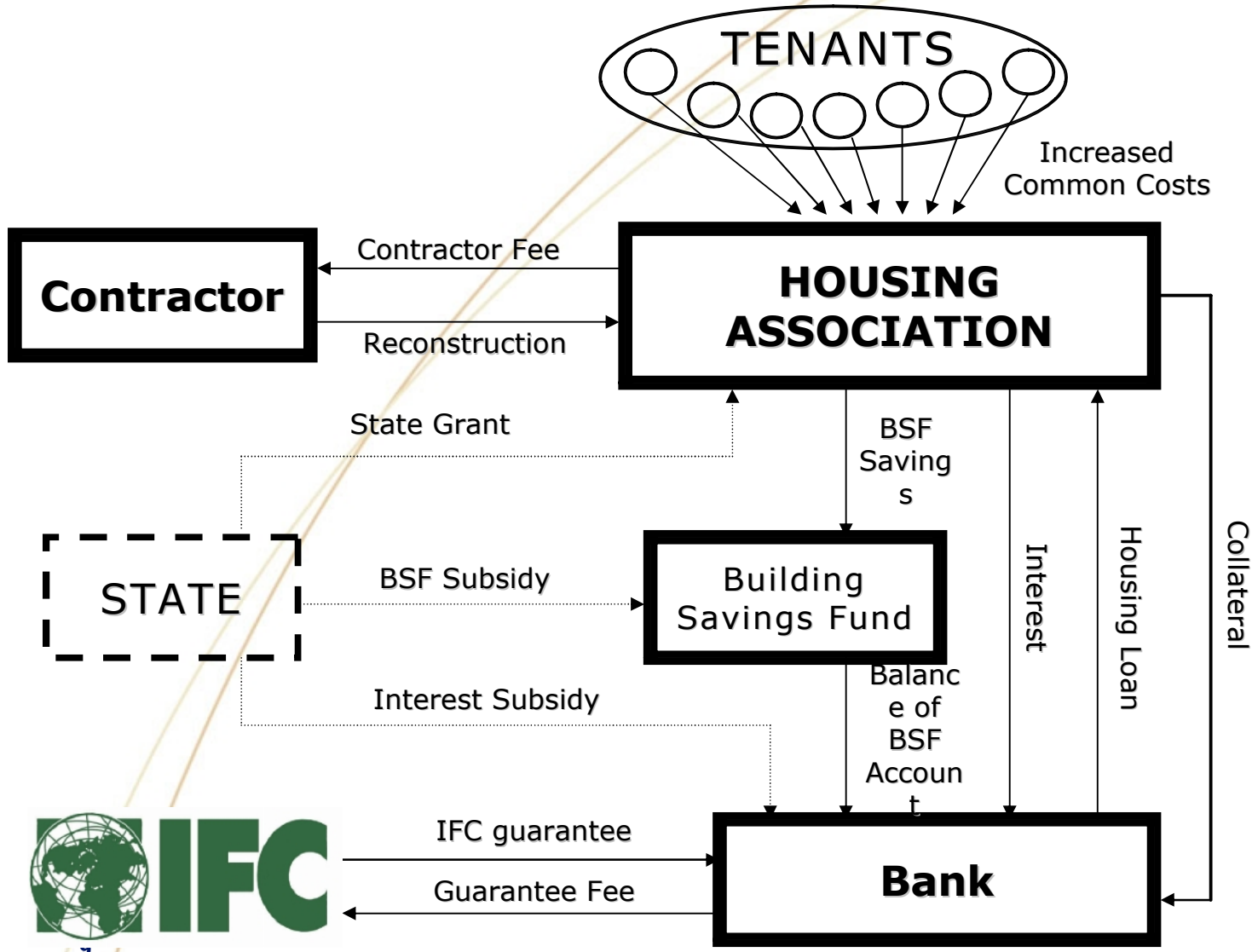


# Program Achievements

- **>200 supported transactions; majority housing renovation projects**
- **\$250 million investment under the scope of the Szemünk Fénye Program in the upcoming 5 years**
- **>25 transactions in EE for SME and RES sectors**
- **US\$34 millions guarantees resulted in the \$88 mil. EE and RE loans, total CAPEX US\$154 millions**
- **Avoided GHG emissions 140 th./year**
- **Largest housing renovation portfolio in IFC history**
- **First ESCo forfaiting transaction guaranteed in EU**
- **Second mortgage product introduced for Baltic countries**
- **First wind power project at IFC ever (2MW)**
- **Largest CEE PV solar plant (0,69 MW)**
- **Largest European ESCO projects supported (OTP)**
- **Dedicated financial product and even EE and RE projects department in the CS bank**



# Program Achievements



# Lessons Learned I

## **Anticipate a long Start-up period (1-3 years)**

- **Time requirements for development of new sustainable energy product with FI are 6 months and more**
- **High lead time to full utilization of the new product (significant volumes generated after 1,5 years of product life)**
- **Time is crucial – you always need more than expected to develop something new**

## **Only quick deal processing achieves results**

- **Adaptation to changing market conditions requires flexibility**
- **Quick processing and flexibility can only be achieved by shifting decision-making close to a client**
- **Transaction cost burden associated with excessive reporting and administrative requirements is a real barrier**

# Lessons Learned II

**Sustainable finance is not a product, it is an idea of market opportunity joined by traditional IFC financial products**

- **Pari-passu guarantee alone is not attractive enough for FIs, strong TA always required**
- **Limited potential of PPG as a risk management tool resulting in low bank participation/deal flow**
- **First-loss guarantee portion makes the product much more attractive**

**Timing of IFC entry in a market is critical**

- **Mature market with certain conditions met (legislative framework etc.)**
- **EE projects never stay alone, always part of the larger picture (SMEs)**
- **RES are the only real project financing**

# Lessons Learned III

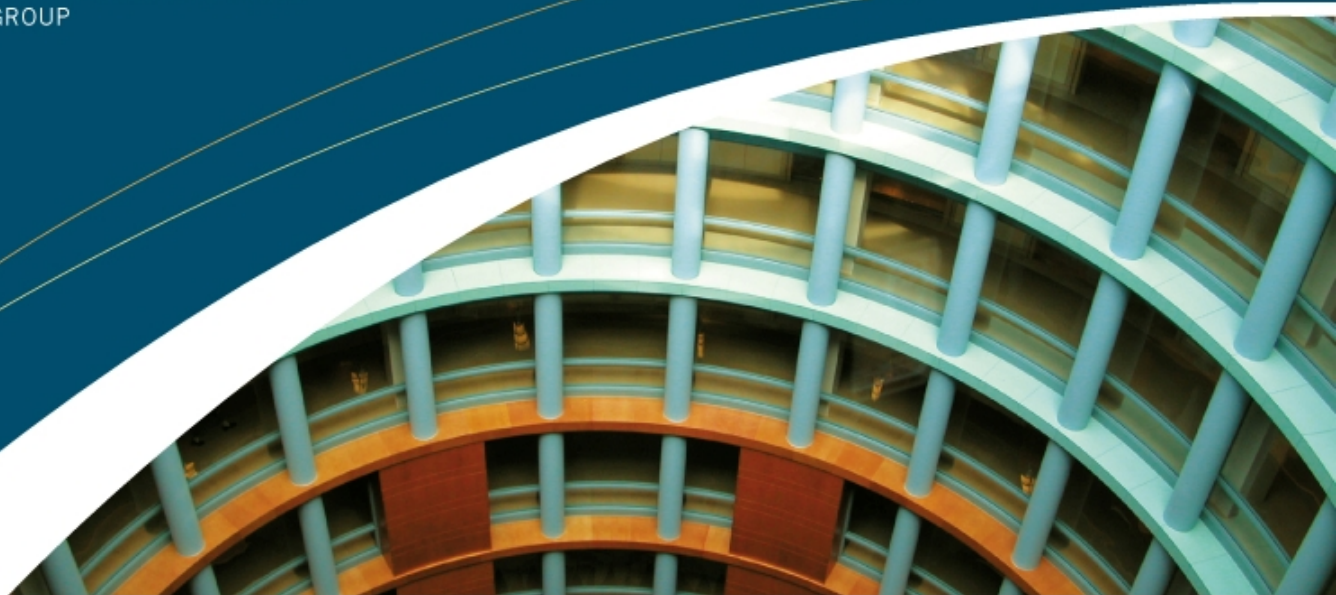
## **External consultants:**

- **Can be efficiently utilized only for very specifically defined tasks**
- **Cannot be expected to develop real pipeline of bankable projects**
- **Management of consultants takes lots of time**
- **Integrate international with local consultants**
- **Adaptive management critical to stay relevant to the market**



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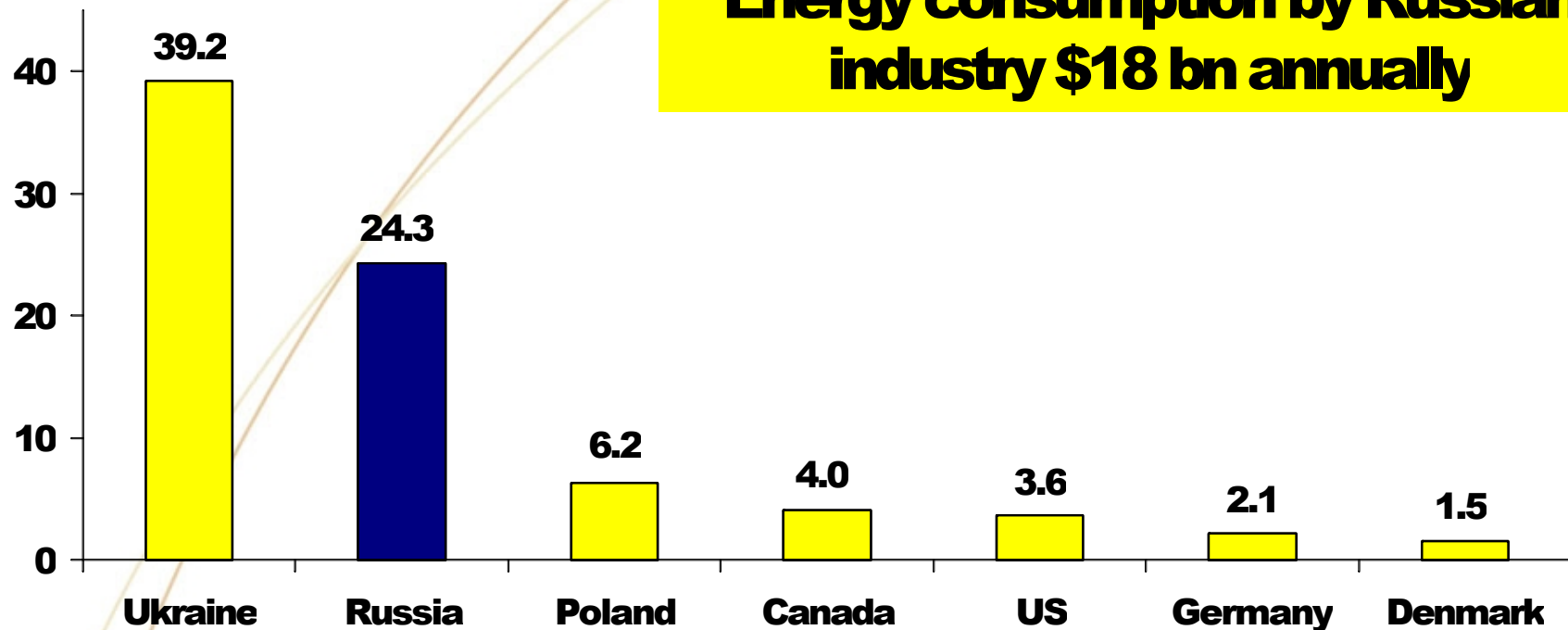
# RUSSIA SUSTAINABLE ENERGY FINANCE



# High energy intensity of economy

## Energy Intensity of GDP

2003 (Kwh/\$)



Source: IEA 2004 report

# End user inefficiency

**From**

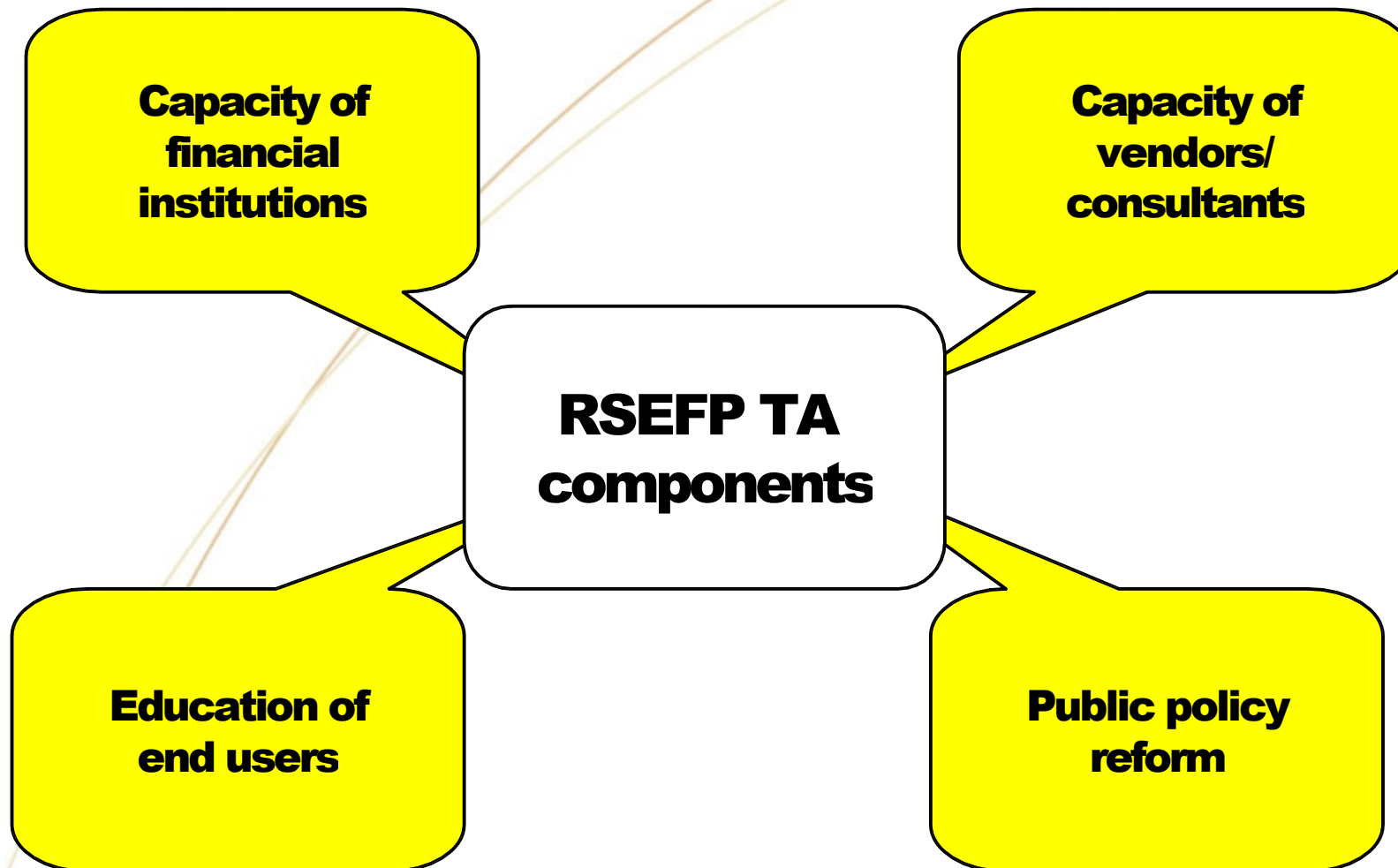


**To**



**48% of production assets installed  
over 20 years ago**

# Comprehensive advisory agenda





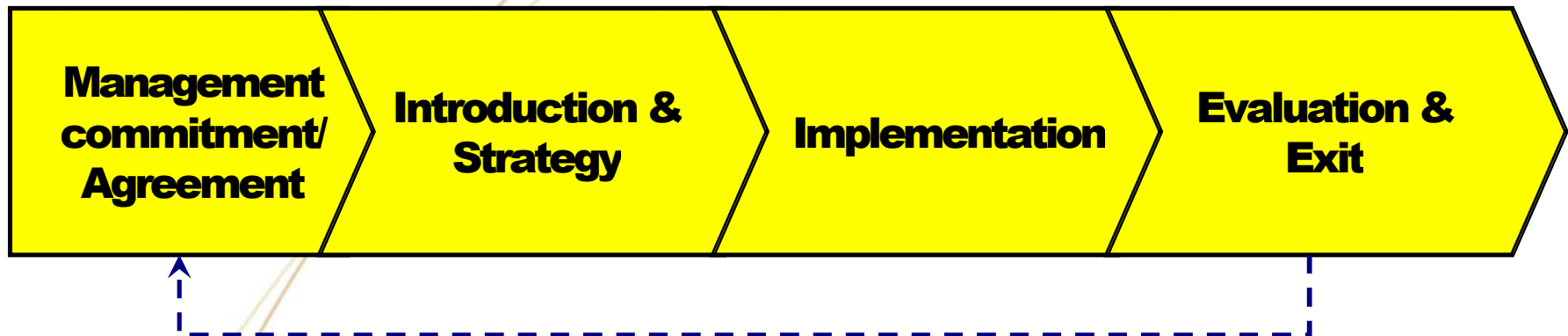
# Structured approach to work with FIs

Step 1

Step 2

Step 3

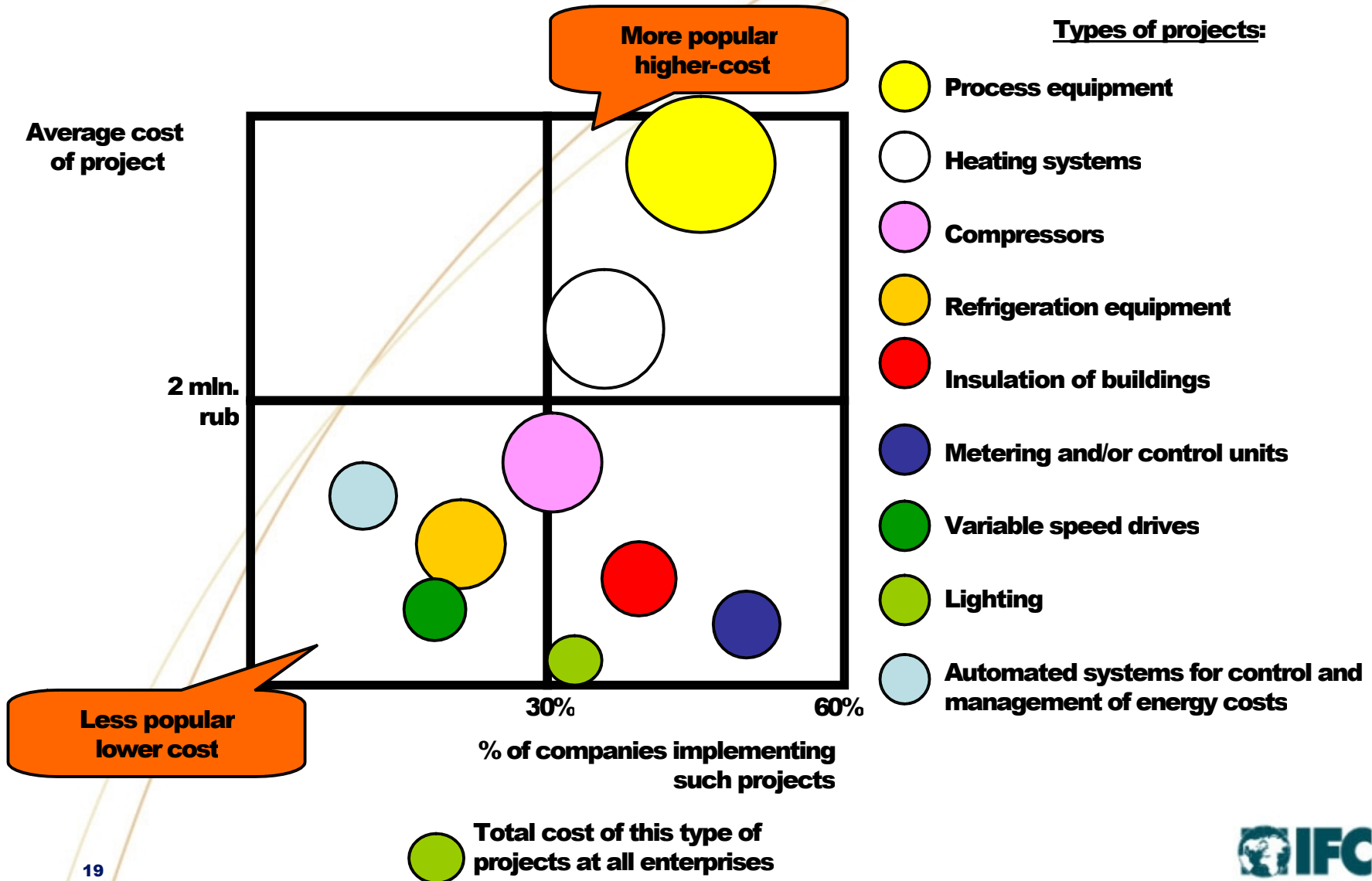
Step 4



# Key conclusions from SME survey

- **Companies underestimate EE potential by 50-70%**
- **Less than a third takes a systematic approach to EE**
- **Only 24% applied for financing for EE projects; 90% of those that did received financing**
- **81% of companies believe that current legislation does not promote energy saving**

# Research as a tool for FI strategy



## **RSEFP major results to date**

- **Active partners: Centerinvest, URSA, Chelindbank, Tatfondbank, Raiffeisen Leasing**
- **Prospective partners: MDM bank, Promsvyazleasing, NBD**
- **15 loans of \$7.4 m to projects worth \$13.9 m**
- **Financed loans save energy costs by \$3.8 m/year and reduce CO2 emissions by ~36 k tons/year**
- **Survey of 625 industrial companies in five sectors**

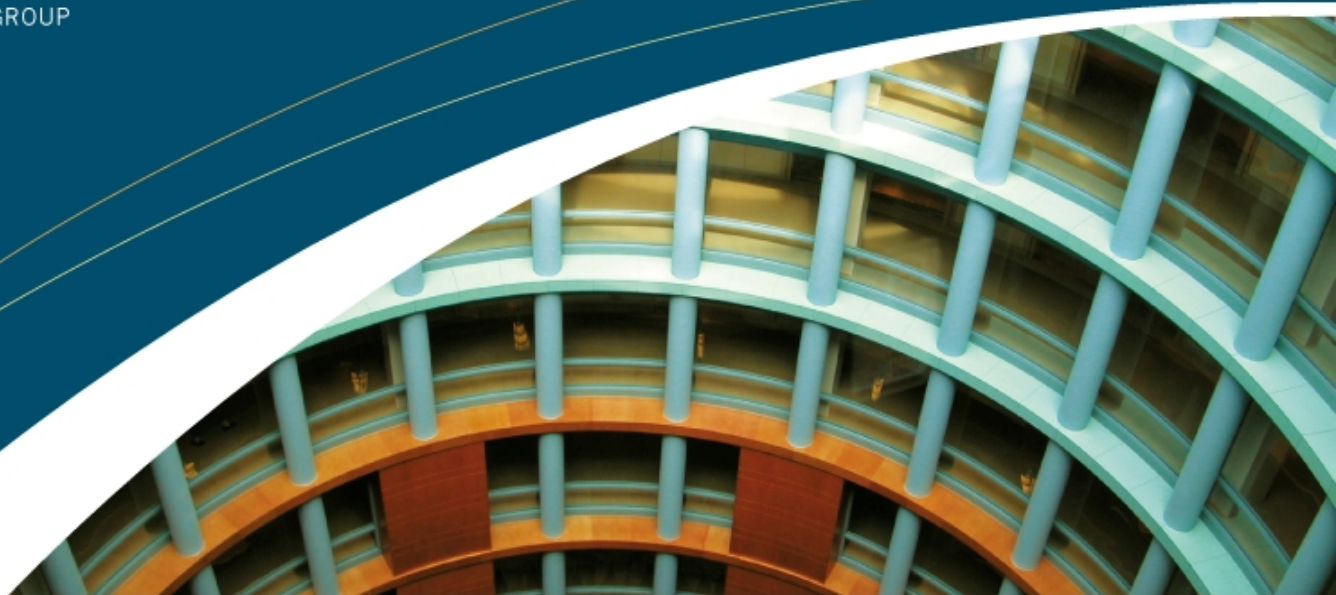
## Lessons learned

- **Business development should be done primarily by FIs**
- **SME EE finance is a big market**
- **Communicating EE in simple messages**
- **Focus on technical and managerial advice for end users, financial analysis less important**



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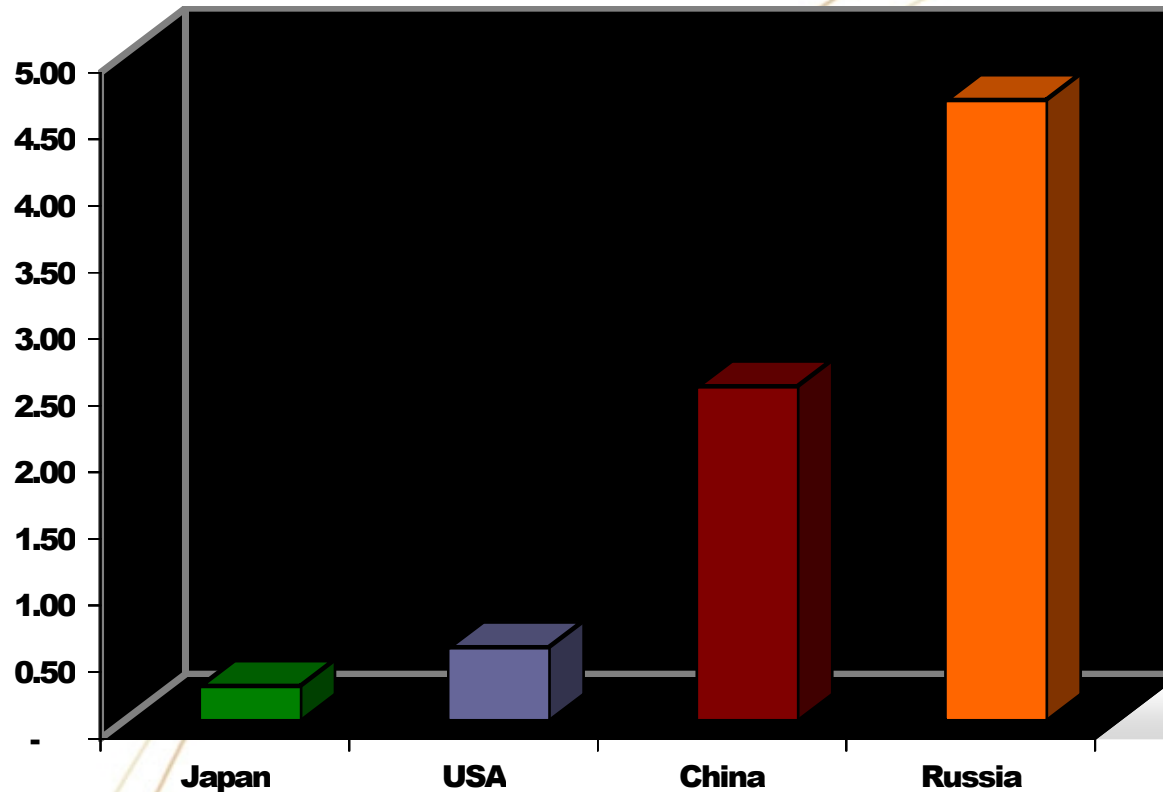
# CHINA UTILITY-BASED ENERGY EFFICIENCY FINANCE



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# How much are you emitting?



Source:

“Key World Energy Statistics, 2006 Edition”, International Energy Agency

Information is for 2004

**China emits much more CO2 to achieve the same GDP output than the rest of the world**

# Another comparison



**VS:**

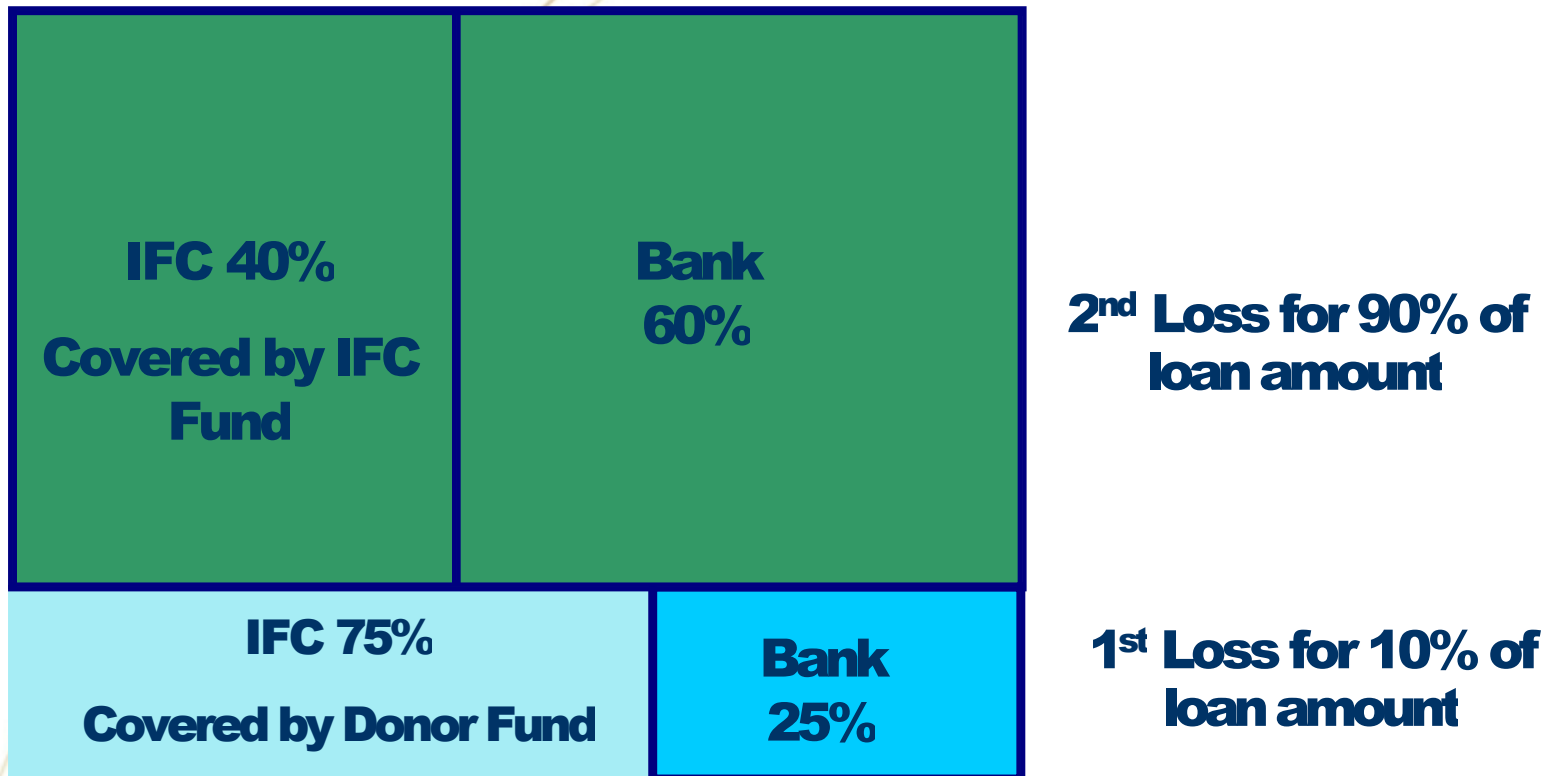


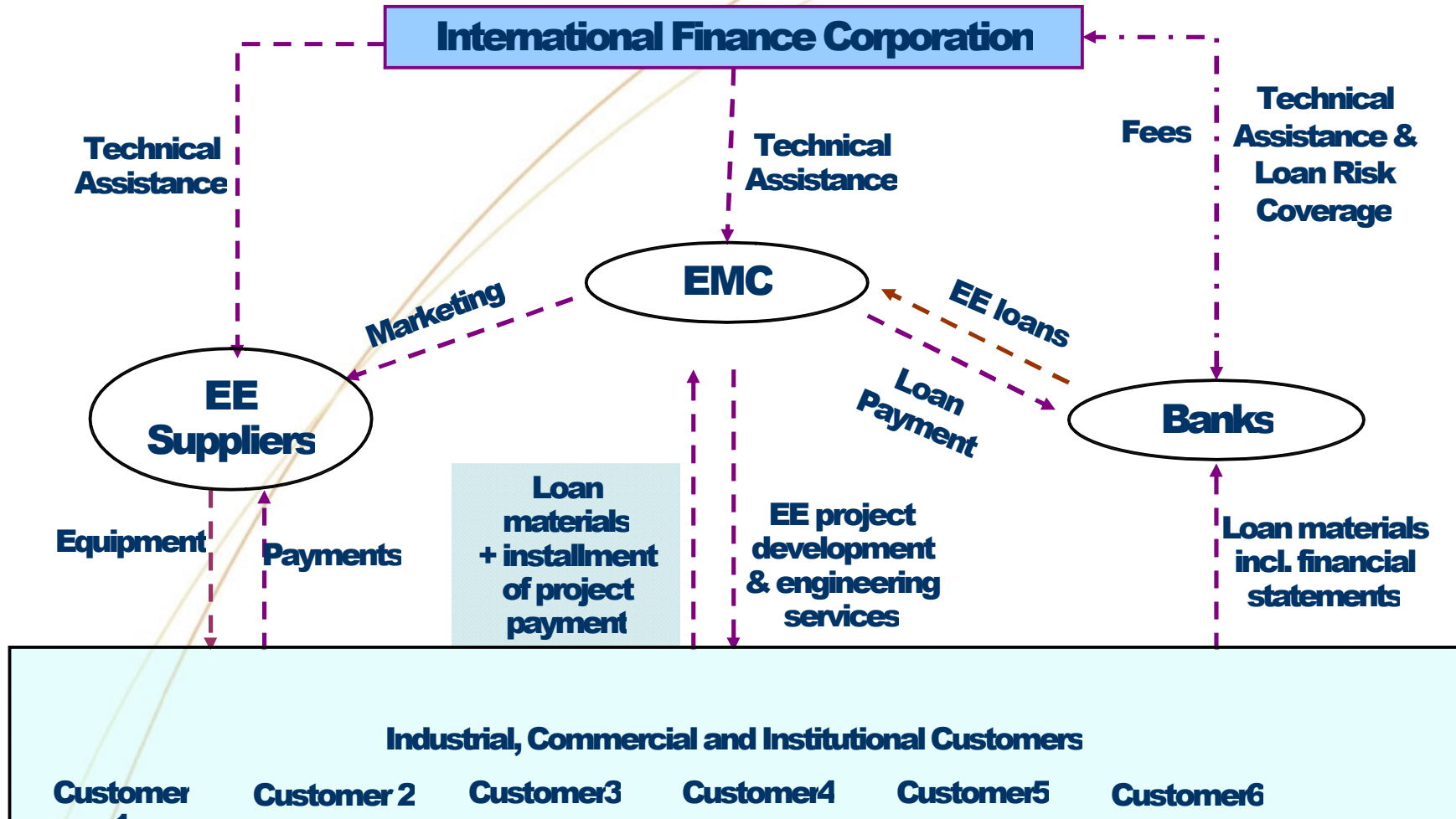


# Why Aren't Banks Financing EE in China?

- 1. Energy Efficiency is a new business**
- 2. Energy Efficiency improvement is often a “patch-on” rather than new investment in assets**
- 3. Banks focus too much on securitizing loans with collateral and guarantee**
  - i. For instance, less than 5% of loans offered by IB are cash-flow based and they are for large state-owned enterprises**
- 4. Again, size matters – most loan officers think the loans required in EE projects are too small and not worthy of their efforts**

# Loss sharing structure







# CHUEE Deal Map

© 2007 Europa Technologies  
 Image © 2007 NASA  
 Image © 2007 TerraMetrics

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# 1<sup>st</sup> Project

**Haizi Coking Plant  
Coking Gas  
Recovery for Power  
Generation:**

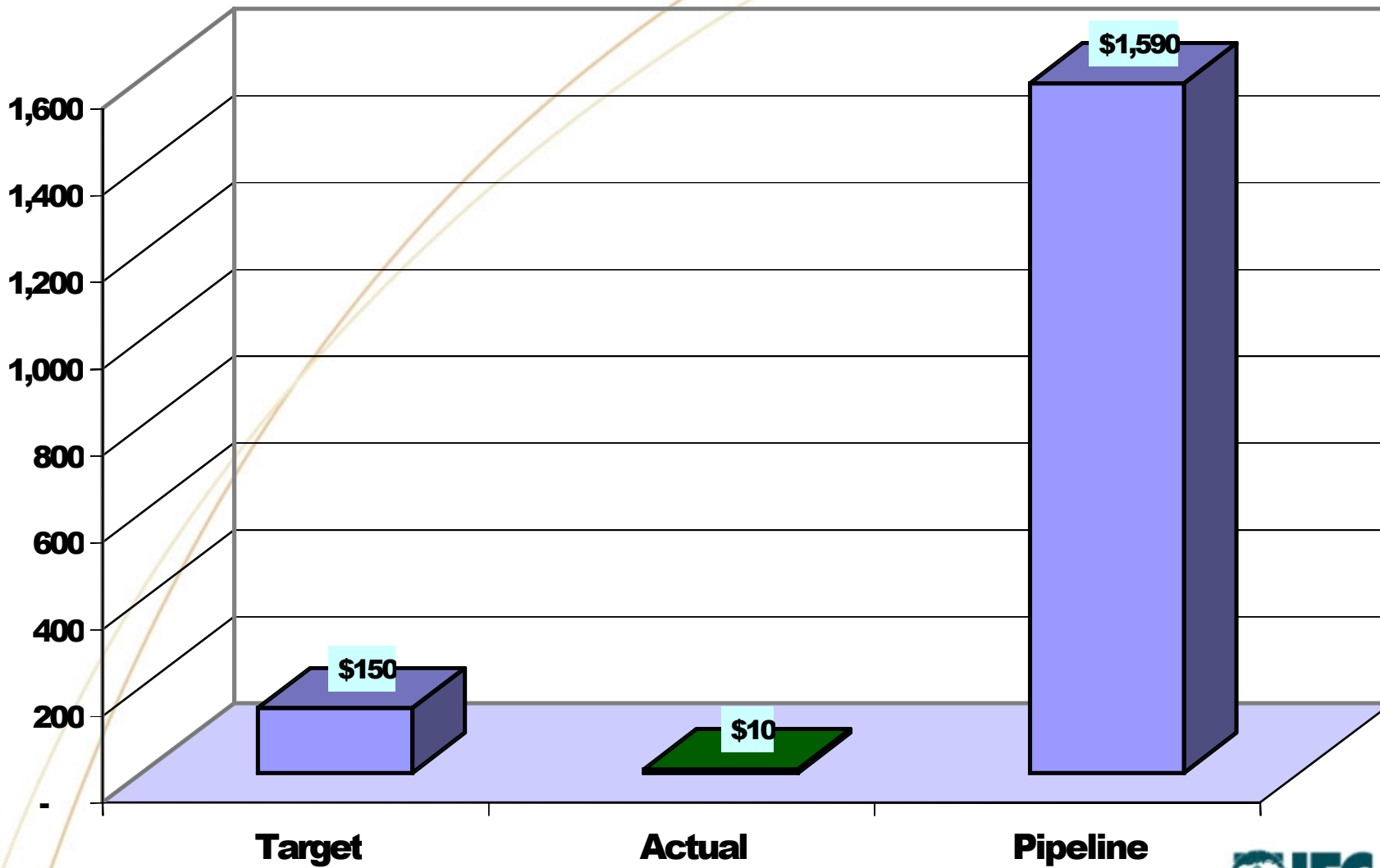
**\$2 million loan to  
Shengdong  
Machinery Company  
Limited**

**20 units of gas-fired  
power generators**

**Emission reduction  
of more than 30,000  
tons of CO<sub>2</sub> per year**



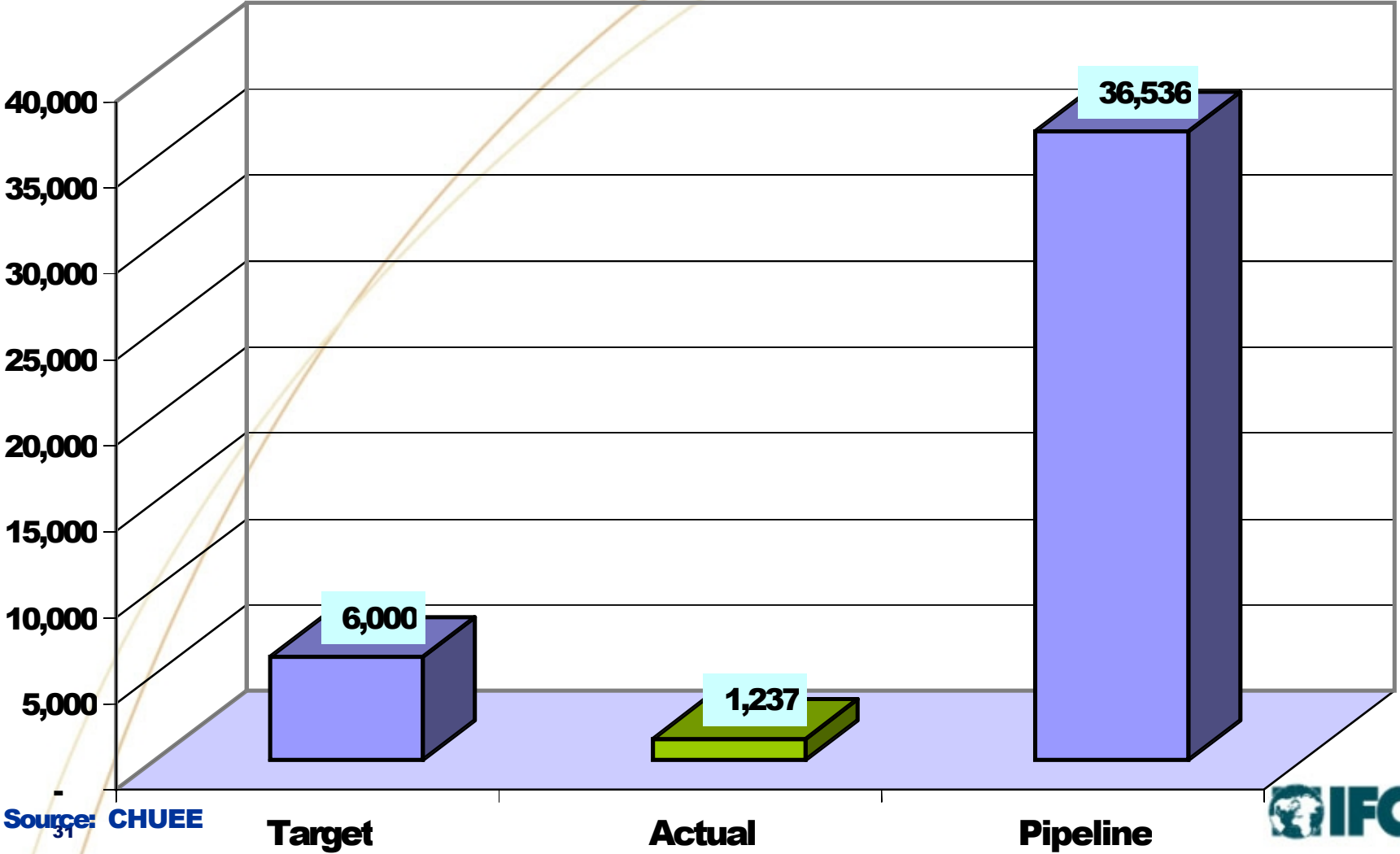
# CHUEE Loans (\$ Million)



Source: CHUEE



# Emission of GHGs (000 tons)



Source: CHUEE



# Lessons learnt

- **LSF seems to work better than line of credit and equity for China's EE due to the leveraging effect**
- **Issues in the Utility Partnership**
  - **Size of gas conversion projects**
  - **Availability of natural gas**
- **Size still an issue**
  - **\$2 million ceiling of CHUEE loan for the purpose of risk diversification**
  - **IB loan officers are only targeting loans between \$1 million and \$2 million**
  - **Larger projects have excellent emission reduction effect and financial viability but fall out of the radar-screens of both IFC's IOs and IB's loan officers**



**THANK YOU!**

**Commercializing Energy Efficiency Finance (CEEF)**

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