Energy Efficiency – Saving Cash and Emissions

Drivers

• Lower Emissions (Kyoto, European Trading, etc)
• Lower Costs (consumption management)

Ingredients

• Government Commitment (subsidies, regulations)
• Financing (debt, equity)
EETEK’s Corporate Structure & Ownership

- EETEK Hungary Kft.
  - Dexia-FE Energy Efficiency and Reduction Fund
  - EEBRD (London)
  - Kansai Electric (Japan)
  - J Power (Japan)
  - Mitsui (Japan)
  - Marubeni (Japan)
  - Dexia (France)

- EETEK Croatia
- EETEK Slovakia
EETEK – A Regional ESCO in CEE

**Hungary**
*Drivers*: EU accession in ’04, liberalization of energy markets, preferential tariffs for cogen & renewables  
*Opportunities*: municipal & industrial cogen, energy outsourcing, renewable (biomass) power generation

**Slovakia**
*Drivers*: EU accession in ’04, excess generating capacity, inefficient industry  
*Opportunities*: Industrial cogen, small hydro, power exportation

**Croatia**
*Drivers*: Tourism-led economic growth, new energy tariffs, antiquated infrastructure  
*Opportunities*: cogen, energy & production outsourcing, municipal illumination
Integrated ESCO – Stages of Evolution

I. **Pure ESCO:** consulting services w/ in-house engineers

II. **Fully-Funded ESCO:** financing demand-side measures w/ own equity

III. **Supply-Side Services:** financing w/ own equity

IV. **Securing Debt Financing:** based on collateral, equity cushion, and track record

V. **Integrated Product Lines:** complementary demand and supply side solutions in outsourced product
The Issues of Energy Performance Contracting

- **Control**: many operational and maintenance requirements are difficult to enforce unless you operate the assets

- **Optimization**: adjustments to automated equipment often requires specialization, which is difficult without access to the full energy system

- **Variability**: multiple product lines without set scheduling make baseline estimation problematic
The Move to Outsourcing - Drivers

- **Focus:** firms want to focus on their manufacturing process, not energy production
- **Rising Costs:** higher energy & operating costs plus the deregulated market an increasing burden
- **Capital Constraints:** many firms in CEE lack access to capital, both on and off balance sheet
- **Aligned Interests:** traditional suppliers of energy are not interested in lowering energy consumption
The EETEK Way – Steps to Project Completion

I. Business Review: clients are selected on the basis of need and ability to pay

II. Preliminary Audit: energy measurements and credit review performed to structure project

III. Initial Proposal: project structure given to customer

IV. Full Audit & Contracting: final terms of project solidified while comprehensive audit performed

V. Implementation: tendering for equipment suppliers and subcontractors for project construction
EETEK Services – A Typical Solution

- **Refurbishment**: new piping, rebuilt boilers, etc
- **Management**: IP-based system linking production & consumption data to computers in control room
- **Measurement**: additional metering installed to ensure high quality system feedback
- **Additional Capacity**: extra electrical and heat capacity added to ensure overall system safety
Refurbishment – Boilerhouse Reconstruction
Refurbishment – New Piping & Insulation
Management – Schematic Linked to Network

- **New gas engine unit**
  - Heat capacity: 3100kW
  - Power: 3048kW

- **New hot water boiler**
  - Heat capacity: 2200kW
  - Reserve

- **New absorption chiller**
  - Cooling capacity: 1500 kW
  - Reserve

- **New compressor driven chiller**
  - Cooling capacity: 1000 kW
  - Reserve

- **Consumers**

**Energy Flow:**
- Natural gas
- Power
- Power to grid
- Heat
- Cooling energy
Measurement – New Piping & Metering
Capacity – New Gas Engine for Trigeneration
Lessons for Energy Efficiency Investing

- GOVERNMENT SUPPORT
- FLEXIBILITY
- QUALITY PEOPLE
- CONTROL
Thank you for your attention!