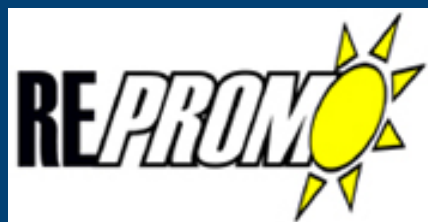


Development of Bio-Energy Projects in Central and Eastern Europe

based on the EC Campaign REPRIMO

Dr. Christian Epp, WIP - Munich



Structure

REPROMO Consortium

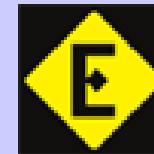
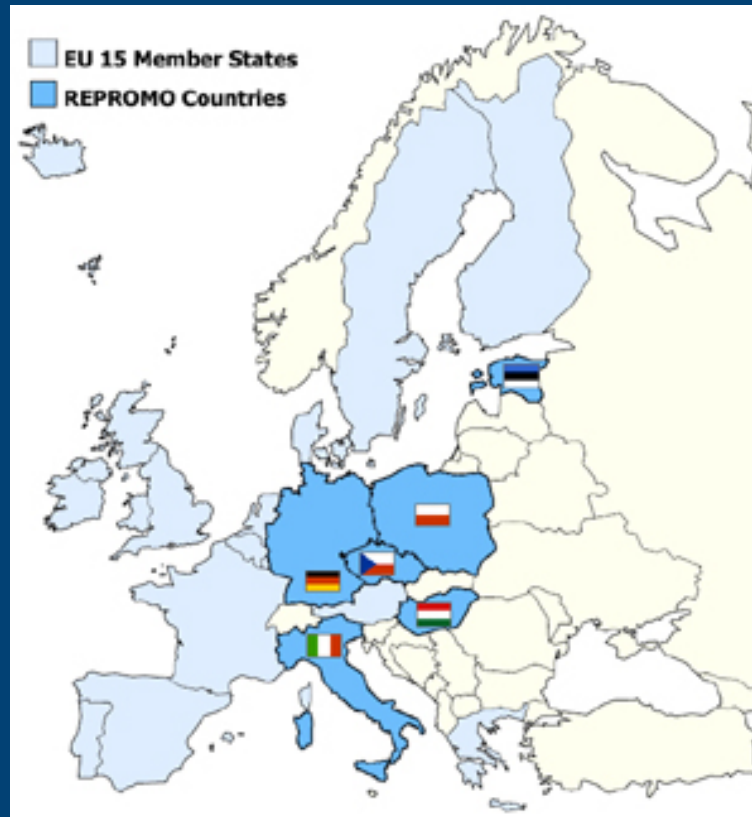
REPROMO Objectives and Actions

Bio-energy Markets in CEEC

RES Project Development in CEEC

REPROMO Best Practice

REPROMO Consortium



GEONARDO

green power – central & eastern europe

WIP

WIP Company Profile

- **Since more than two decades active in the field of Renewable Energies (RE)**
- **Policy work for RE market development**
- **Consultancy services for RE market access**
- **Events and European Conferences**



RE Actions in CEE

- First grid connected PV Solar system “golden façade” on a Hotel in Prague
- Hybrid energy supply for the largest light house at the Black Sea



RE Actions in CEE



green power – central & eastern europe

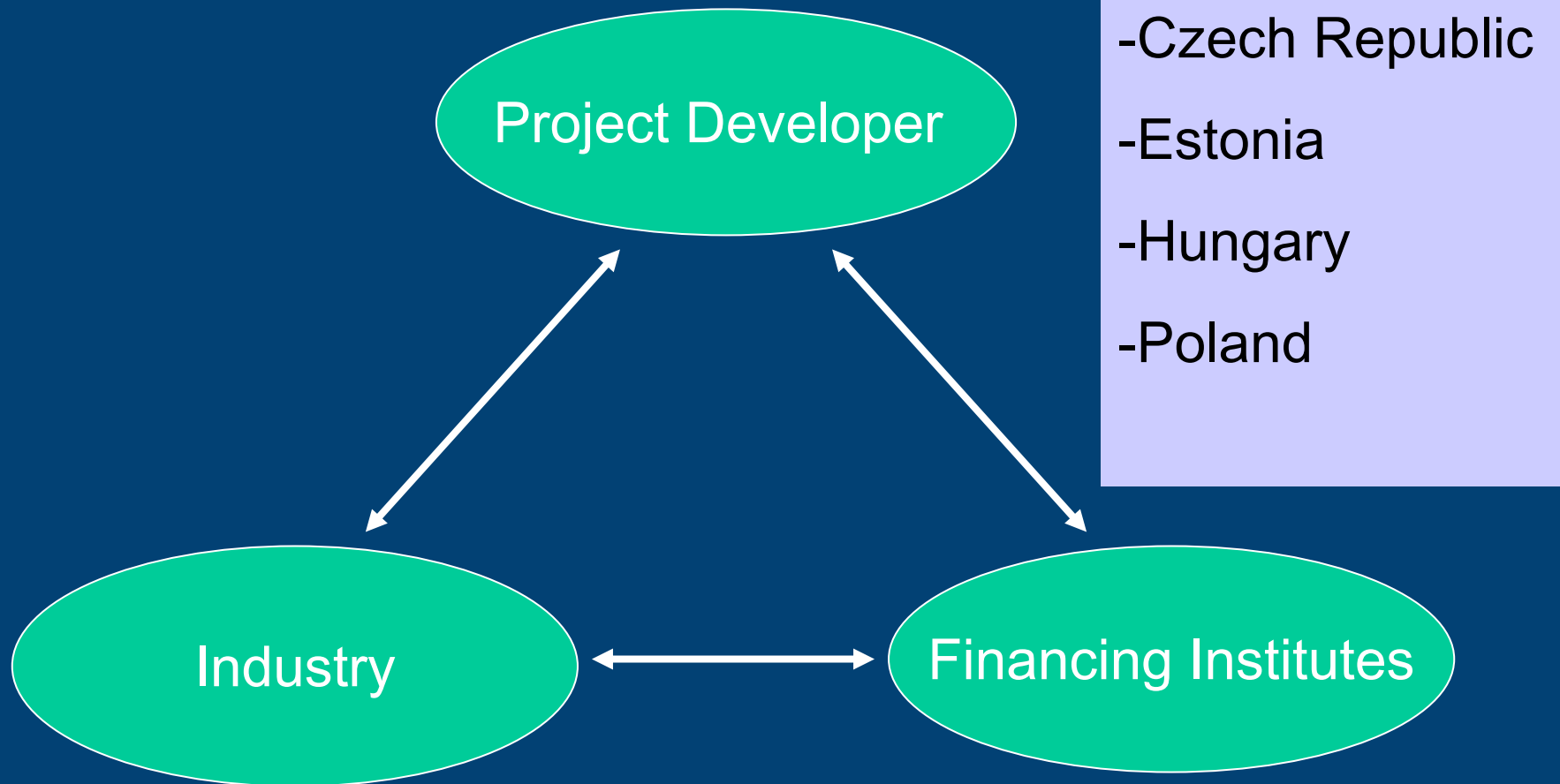
WIP

REPROMO Strategy

- Build-up a campaign structure
- Select interesting project ideas
- Support their further development
- Present them on Market Places on the
 - **World Biomass Conference**
14 May 2004, Rome
 - **European PV Solar Energy Conference**
8 June 2004, Paris
 - **Green Power – Central & Eastern Europe**
28 and 29 September 2004, Budapest



REPROMO Idea



REPROMO Seminars



- Four seminars with 40 participants in average
- Focus on legal and financial matters
- Action oriented
- Intense debate between the Forum participants

All seminar results available on the REPROMO Website
www.repromo.org

Bio- Energy Markets in CEE

- Bio-energy markets are heterogenous and complex
 - Quickly changing political and economic framework conditions
 - Individual assessment for three market sectors required
- Bio- Electricity
- Bio- Heat
- Bio- Fuels



Feasible RES actions

- Biomass co-firing in conventional power plants
- Production of tradable biomass commodities
- Bio-gas production from agricultural and municipal waste
- Conversion of boiler houses to biomass feedstock (possibly with co-generation)

RE Project Development in CEE

Intense RE development by the following actors:

- SMEs and Communities in the Rural Environment
- RE project developers from EU – 15
- International Organisations
- Large utilities in CEE



→ Few successful RE implementation at present

Barriers against successful RE development



- Lack of knowledge about appropriate RE technologies
- Limited financial resources for feasibility work
- Insufficient securities for third party investment
- Non-transparent markets
- Limited partnership and cooperation structures

Czech Biogas Cogeneration

Farm with 12.000 pigs and 1.000 cows in Horni Tosanovice

Anerobe digestions of 20.000 tons of manure of year

Cogeneration with heat use for the stables (455 kW)

Electricity sale to the local energy utility (350 kW)



- Investment of 1,5 Mio Euro
- Equity by agricultural company
- Technical feasibility work by German Biogas Company

Estonian Landfill refurbishment

Pääsküla landfill of 25 ha with 40 m average garbage

Biogas production of 1000 nm³/hour

Gas has CH₄ content of about 65 %

Co-generation with electricity output of 836 kW and thermal output of 1050 kW.



- Investment of 1 Mio Euro
- Equity by Dutch investor
- Gas collection technology from Sweden
- Second CHP financed by commercial loans

Polish Pellet Production

- Vast sawdust resources in the region (2 tons per hour)
 - Electricity generation of 250 kW for the regional energy utility
 - Heat production of 500 kW for the pretreatment of the sawdust
 - Old factory building available with good logistic framework
- Investment of appr. 1,5 Mio Euro
-Decisive support of the municipality
-Link into a larger framework of pellet production for industrial purposes
→ Search for technological partner

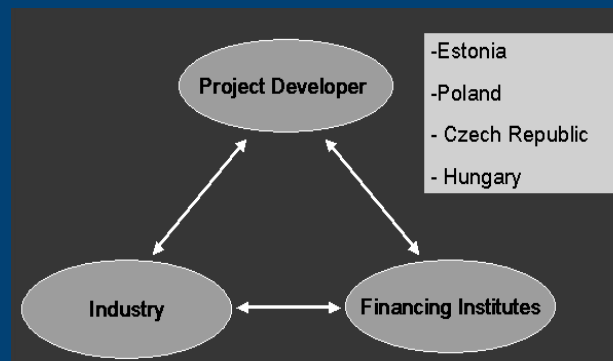


Conclusions

Many interesting bio-energy actions are under planning
in CEE

Sucesful project development requires strong coalitions
between industry and investment

Enhanced co-operation and information structures will
support the bio-energy market development



Thank You for Your attention

