EXPERIENCE IN BIOENERGY DEVELOPMENT IN THE BALKANS

GBEP Working Group on Capacity Building
Budapest

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# The World Bank Group

<table>
<thead>
<tr>
<th>IBRD</th>
<th>IDA</th>
<th>IFC</th>
<th>MIGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Bank for Reconstruction and Development</td>
<td>International Development Association</td>
<td>International Finance Corporation</td>
<td>Multilateral Investment and Guarantee Agency</td>
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<tr>
<td>Est. 1945</td>
<td>Est. 1960</td>
<td>Est. 1956</td>
<td>Est. 1998</td>
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</tbody>
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## Role
- **IBRD**: To promote institutional, legal and regulatory reform
- **IDA**: To promote institutional, legal and regulatory reform
- **IFC**: To promote private sector development
- **MIGA**: To reduce political investment risk

## Clients
- **IBRD**: Governments of member countries with per capita income between $1,025 and $6,055
- **IDA**: Governments of poorest countries with per capita income of less than $1,025
- **IFC**: Private companies in member countries
- **MIGA**: Foreign investors in member countries

## Products
- **IBRD**: Technical Assistance, Loans, Policy Advice
- **IDA**: Technical Assistance, Interest Free Loans, Policy Advice
- **IFC**: Equity/Loans, Risk Management, Advisory Services
- **MIGA**: Political Risk Insurance
IFC’s Three Businesses

IFC Investment Services
- Loans
- Equity
- Syndications
- Resource Mobilization
- Trade finance
- Risk management

IFC Advisory Services
- Advice
- Financial Institutions
- Investment Climate
- Energy and Resource Efficiency
- Public-Private Partnerships

IFC Asset Management Company
- Wholly owned subsidiary of IFC
- Private equity fund manager
- Invests third-party capital alongside IFC
An unmatched challenge

Without immediate intervention in emissions reductions, climate change could result in an additional 100 million people living in extreme poverty by 2030.

Global Fis pledged to make hundreds of billions of investment over the next 15 years in clean energy and energy efficiency.

According to the UN’s IPCC, GHG emissions would have to be cut 40-70% by 2050, and reduced to nearly zero by 2100, to meet the 2 degree goal.

IFC’s Climate Implementation Plan objectives:

• Scale climate investments to reach 28% of IFC’s annual financing by 2020;
• Catalyze $13 billion in private sector capital annually by 2020 through mobilization, aggregation, and de-risking products
• Maximize impact through GHG emissions reduction and resilience
• Account for climate risk—both the physical risk of climate impacts and the carbon asset risk
Identified Obstacles

Regulatory Obstacles:
- Incomplete legal framework
- Lack of institutional capacity
- Numerous decision makers

RE Developers:
- Inexperienced
- Erroneous designs
- Intentions to sell their projects

Local Banks:
- Negative RE experiences
- Lack of capacity relating to RE
- Step-in right absence
Balkans Renewable Energy Program (FY10 – FY16)

**Activities**

- Legal framework improvements
- Support to RE sponsors (Market and company level)
- Support to financial institutions (Market and bank level)

**BREP Countries**

<table>
<thead>
<tr>
<th>Country Code</th>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALB</td>
<td>Albania*</td>
<td>Started FY10</td>
</tr>
<tr>
<td>BIH</td>
<td>Bosnia and Herzegovina*</td>
<td>Started FY12</td>
</tr>
<tr>
<td>MAC</td>
<td>Macedonia**</td>
<td>Started FY12</td>
</tr>
<tr>
<td>MNE</td>
<td>Montenegro***</td>
<td>Started FY13</td>
</tr>
<tr>
<td>KOS</td>
<td>Kosovo***</td>
<td>Started FY13</td>
</tr>
<tr>
<td>SRB</td>
<td>Serbia***</td>
<td>Started FY13</td>
</tr>
<tr>
<td>MDA</td>
<td>Moldova*** (limited scope)</td>
<td></td>
</tr>
</tbody>
</table>

* Started FY10; ** Started FY12; *** Started FY13
Legal Framework Improvements

Targets:
- Align national with EU regulation; Fulfill obligations deriving from the Energy Community Treaty of the SEE;
- Design appropriate incentive mechanisms;
- Increase transparency of concessions granting procedure (credibility);
- Design investment promotion tools and mechanisms for RE plants;

<table>
<thead>
<tr>
<th>Country</th>
<th>Legal Document</th>
<th>Enacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALB</td>
<td>Law on Renewable Energy</td>
<td>2013</td>
</tr>
<tr>
<td>BIH</td>
<td>Law on Renewable Energy and Efficient Cogeneration (RS)</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td>Law on Renewable Energy and Efficient Cogeneration (FBiH)</td>
<td>2013</td>
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<tr>
<td></td>
<td>Law on Concessions (step-in rights) (RS)</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td>Decree on Renewable Energy and Efficient Cogeneration Incentives (FBiH)</td>
<td>2014</td>
</tr>
<tr>
<td>MAC</td>
<td>Energy Law (RE heading)</td>
<td>2011</td>
</tr>
<tr>
<td></td>
<td>Standard Water Concession Contract for SHPPs</td>
<td>2014</td>
</tr>
<tr>
<td>MNE</td>
<td>Direct Agreement for Step-in Rights between the GoM and an FI</td>
<td>2015</td>
</tr>
<tr>
<td>SER</td>
<td>Decree on Feed-in Tariffs</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td>Decree on Privileged Status</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td>Decree on End-User Fee Calculation</td>
<td>2013</td>
</tr>
<tr>
<td></td>
<td>Preliminary PPAs (below and above 5 MW)</td>
<td>2013</td>
</tr>
</tbody>
</table>
Support to Renewable Energy Sponsors

### Market Level Interventions
- B2B workshops
- Support to Associations
- Knowledge sharing
- Promotion of new technologies

### Company Level Interventions
- Designs cross-check and review
- Business plan preparation
- E&S assessment
- CDM projects registration

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity</th>
<th>Type</th>
</tr>
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<tbody>
<tr>
<td>ALB</td>
<td>B2B – Linking international and local SHPP companies</td>
<td>Market</td>
</tr>
<tr>
<td></td>
<td>Registration of Programmatic CDM for SHPPs</td>
<td>Company</td>
</tr>
<tr>
<td></td>
<td>Review of the Feasibility study for a cascade of seven SHPPs</td>
<td>Company</td>
</tr>
<tr>
<td>BIH</td>
<td>Review of the Preliminary design for a cascade of three SHPPs</td>
<td>Company</td>
</tr>
<tr>
<td></td>
<td>Review of the Basic design for a cascade of three SHPPs</td>
<td>Company</td>
</tr>
<tr>
<td>MAC</td>
<td>Pre-feasibility study preparation for biomass plant</td>
<td>Company</td>
</tr>
<tr>
<td></td>
<td>Support in development of the wind power plant</td>
<td>Company</td>
</tr>
<tr>
<td>SER</td>
<td>Analysis of biogas plants costs and incomes in Serbia</td>
<td>Market</td>
</tr>
<tr>
<td></td>
<td>Electricity prices forecasts and economic and financial evaluation of the PSP</td>
<td>Company</td>
</tr>
</tbody>
</table>
## Support to Financial Institutions

### Market Level Interventions
- Training material development
- Integration of Regulatory/Budgeting/Engineering and Risk in the Finance Manual
- Country level workshops

### Company Level Interventions
- In-depth training focused on SHPPs and project finance
- Support in SHPP assessment
- Portfolio analysis and recommendations

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<th>Type</th>
</tr>
</thead>
</table>
| ALB     | Country level workshop  
Training and support to Credins Bank  
Training and support to Intesa Bank | Market  
Company |
| BIH     | Country level workshop  
Training and support to UniCredit Bank Mostar  
Training and support to UniCredit Bank Banjaluka | Market  
Company |
| KOS     | Country level workshop | Market |
| MAC     | Country level workshop | Market |
| MNE     | Country level workshop | Market |
| SER     | Country level workshop | Market |
Biomass Plant in Macedonia

Pre-feasibility study

Paper mill factory interested in independent electricity and heat supply

Support to on development of the pre-feasibility study on potential of utilization of biomass from agricultural and wood biomass for energy generation

Qualitative and quantitative in-depth analysis of the availability of biomass in the Kocani region

Analysis of the existing energy system in sponsor's' premises

Detailed technical and financial analysis of different scenarios

Preliminary environmental impact assessment

Detailed financial evaluation for the best scenario
Biogas FiTs in Serbia

Financial model

NREAP targets by 2020:
- 30 MWel (manure based) biogas plants with CHP operation
- Generation of 225 GWh of electricity
- Equivalent to 6.2% of the projected 2020 renewable energy share

Serbian Biogas Association initiated the review of 2013 feed-in tariffs in the country – existing prices did not provide sustainable framework for biogas projects

Detailed analysis of standard costs and incomes for biogas plant design, construction and operation

Scope of work:
- Data collection
- Financial tool preparation
- Report on recommended feed-in tariffs

Following the report, new feed-in tariffs were adopted
The concept

The overall objective is to catalyze investment into energy generation, transmission and distribution.

Priority countries: Ukraine, Serbia, Kosovo, BiH, Belarus and Albania; Watch: Turkey, Macedonia and Montenegro.

Main activities:

• Advising clients and other selected companies on the feasibility of new RE projects.
• Engaging groups of companies, associations, public institutions to create new market opportunities and remove specific market barriers.

Focus on biomass and biogas in Ukraine, Belarus and Serbia.

Planned:

• Mapping of biogas potential in Ukraine and Serbia.
• Market-level support (long-term contracts for fuel supply).

Financing from IFC's Investment Services, MAS and FIG (depending on the size and nature of the project).
Key Takeaways

- Remaining work to be done:
  - Detailed resource mapping
  - Competitive bidding processes and feed-in premiums (EU Guidelines on State aid for environmental protection and energy) – avoid grouping of power plants according to installed capacity
  - Further support in development of secondary legislation (standardized concession contracts, PPAs, GCAs etc.)
  - Capacity building at all levels of government – support in preparation of technical documents (e.g. pre-feasibility studies)
  - Strengthening monitoring institutions (regulators, inspections) to avoid underutilization of resources / E&S issues
  - Attraction of renowned international sponsors – providing confidence in successful project development
  - Raising awareness at local developers on steps / quality of documents leading to successful financial closure; willingness to pay for certain services
  - Increased activities of local banks and International Financial Institutions – move to project finance
  - Introduction of step-in rights
  - Strengthening of RE associations

- Things to do differently:
  - More focus on subnational entities due to important competencies in RE concessions / licenses granting process
  - Motivation of decision-makers – focus on technologies with a high level of CAPEX/OPEX flowing to local providers
  - Identify more local companies capable of providing high-quality outputs

- Things to do the same way:
  - Continuous support to client representatives – real capacity building occurs over time and in partnership
  - Comprehensive programmatic approach (legal framework, sponsors, FIs)
  - Team with the strong internal expertise in all three core activities
Selection of IFC’s Recent Regional RE Investments

- **SHPPs in Albania owned by the Austrian enso G.m.b.H**
  - Installed power up to 50 MW
  - Investment value up to EUR 100 million
  - IFC equity investment EUR 6 million

- **Wind power plant Sibenik in Croatia owned by the Austrian RP Global Holding**
  - Installed power 44 MW
  - Investment value EUR 84 million
  - IFC loan EUR 20 million; mobilized additional EUR 35 million

- **Wind power plant Jelinak in Croatia owned by the Spanish Acciona S.A.**
  - Installed power 30 MW
  - Investment value EUR 55 million
  - IFC loan EUR 20 million; mobilization of additional EUR 25 million

- **HPP privatization in Albania by the Turkish Kurum International**
  - Installed power 77 MW
  - Investment value EUR 120 million
  - IFC loan EUR 30 million; mobilization of additional EUR 66 million
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