Financing of Projects in Water, Waste and Contamination in the Danube Region

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Infrastructure and Project Finance
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A. About Kommunalkredit
Business Model. Austrias Bank for Infrastructure

Ownership Structure. 99.78% Republic of Austria, 0.22% Association of Austrian Municipalities

Total Assets. EUR 16.5 billion (as of 30-06-2011 according to IFRS)

Geographic Focus/ Markets
Austria, Germany, Switzerland, new EU Member States and Croatia, Serbia; selective strategic projects in other Western European countries in cooperation with Austrian partners

Sectors of Infrastructure
Focus on social infrastructure, energy and environment, and transport

Products
Provision of short- to long-term loans – as arranger, underwriter or participant, treasury products, deposits, financial advisory services and support scheme management through KA´s subsidiary Kommunalkredit Public Consulting (KPC)

Customers
Municipalities, public sector entities, private infrastructure developers and operators, utilities, suppliers, project developers
## Provision of Finance and Advisory

### Energy & Environment
- Energy supply and distribution
- Renewable Energy
- Water supply and disposal
- Waste management and disposal

### Social Infrastructure
- Schools, universities, libraries
- Hospitals & care homes
- Police and court buildings, law enforcement facilities
- Administrative buildings
- Other public facilities

### Transport
- Roads, bridges, tunnels
- Rail-based transport
- Airports
- Ports, waterways

### Infrastructure consulting
- Strategic advisory, financing
- Transaction advisory for infrastructure projects

### Customer groups
- Public sector authorities
- Special-purpose entities
- Public sector enterprises
- Utilities
- Private infrastructure developers and operators
Kommunalkredit Public Consulting

Mandated managing body of the Austrian Ministry of Environment

- KPC is managing **grant schemes** for the Ministry as delegated agency since 1993
  - Water Supply
  - Wastewater Treatment
  - Remediation of contaminated sites
  - Renewable Energy & Energy Efficiency

- Manager and trustee of the **Environmental Protection and Water Management Fund**

- KPC is (one of four) manager of the new established **Climate & Energy Fund**

- KPC is responsible for **EU-Structural Fund** management in Austria for environmental measures of enterprises
Key Figures of KPC (2005-2011)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>Investment*</th>
<th>Support granted*</th>
<th>Clearances*</th>
<th>Disbursements*</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPC total 2005</td>
<td>3,704</td>
<td>1,376.1</td>
<td>378.2</td>
<td>2,114</td>
<td>394.9</td>
</tr>
<tr>
<td>KPC total 2006</td>
<td>4,928</td>
<td>1,449.0</td>
<td>436.2</td>
<td>2,822</td>
<td>387.0</td>
</tr>
<tr>
<td>KPC total 2007</td>
<td>5,102</td>
<td>1,202.1</td>
<td>382.0</td>
<td>3,833</td>
<td>401.3</td>
</tr>
<tr>
<td>KPC total 2008</td>
<td>14,745</td>
<td>1,672.4</td>
<td>457.1</td>
<td>3,723</td>
<td>433.1</td>
</tr>
<tr>
<td>KPC total 2009</td>
<td>33,213</td>
<td>2,472.4</td>
<td>582.2</td>
<td>7,811</td>
<td>580.0</td>
</tr>
<tr>
<td>KPC total 2010</td>
<td>15,956</td>
<td>2,050.4</td>
<td>488.8</td>
<td>17,276</td>
<td>582.4</td>
</tr>
<tr>
<td>KPC total 2011</td>
<td>45,476</td>
<td>2,688.7</td>
<td>524.2</td>
<td>20,190</td>
<td>554.9</td>
</tr>
<tr>
<td>Total 2005-2011</td>
<td>123,124</td>
<td>12,911.2</td>
<td>3,248.6</td>
<td>57,769</td>
<td>3,333.6</td>
</tr>
</tbody>
</table>

2011: approx. EUR 2.7 billion investment ➞ 33,000 jobs
National and International Consulting

• Examples of international consulting projects
  – EU Support of the Serbian Ministry of Mining & Energy in the sustainable development of the energy sector
  – EBRD Feasibility Study for a water utility company in Serbia
  – GIZ Support to municipalities in Moldova for improving municipal service provision
  – OECD Study on improving water management and climate change adaptation in the water sector in Moldova
  – World Bank Support in the set-up of a Homeowners Association Resource Center in Ukraine
  – EIB Consultancy services within the framework of the JASPERS Programme
  – ADA Policy advice for and support of water and waste-water projects within the framework of Austria’s cooperation with CEE

• Examples of national consulting projects
  – BMLFUW* Modified cost-effectiveness analysis for contaminated site rehabilitation
  – BMLFUW* Technical support for technology transfer expert group (EGTECH)
  – Verbund AG Study of market potential for small-scale CHP plants

* Federal Ministry of Agriculture, Forestry, Environment and Water Management
B. Key drivers and regulatory environment
1. Public or Private Money
Financing of Projects in Waste, Water, contaminated land

General:

- Awareness of project risks
- Vast number of different national approaches
- „polluter pays“ principle implemented
- Problem of generating funds - public or private money?
- very much dependet on regulatory / legal framework and it‘s reliability
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Investments</th>
<th>Applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>prevention of water pollution</td>
<td>waste water plants, sewer systems, sludge treatment, waste water treatment, water supply</td>
<td>municipalities</td>
</tr>
<tr>
<td>ensuring hygienic sane drinking water</td>
<td></td>
<td>association of municipalities</td>
</tr>
<tr>
<td>affordable prices of supply and treatment</td>
<td>fish passes, hydro morphological improvements</td>
<td>association of single households</td>
</tr>
<tr>
<td>improvement of ecological status of flowing water</td>
<td></td>
<td>enterprises</td>
</tr>
</tbody>
</table>
Type of Aid - Funding

Type of Aid (Disbursement)
until 1993: loans (interest rates 1% - 3%)
since 1993: grants to loans and interest rates of loans (5% - 80%)

Funding
fiscal equalisation transfer - fixed amount of certain tax income

federal level: approx. 70%
regions: approx. 17%
municipalities: approx. 13%


Results

Water supply
90% of households connected to central supply systems

Waste water
91.7% of households connected to central waste water treatment plants
<table>
<thead>
<tr>
<th>Objectives</th>
<th>Investments</th>
<th>Applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>safeguarding against the outflow into the groundwater</td>
<td>In-situ sanitation technologies (e.g. funnel and gate), pump and treat measures</td>
<td>enterprises, public households</td>
</tr>
<tr>
<td>disposal and reuse of the contaminated soil</td>
<td>Soil decontamination plants</td>
<td>enterprises, public households</td>
</tr>
</tbody>
</table>
## Type of aid
Aid rates in acc. with § 7 FRL 2008

<table>
<thead>
<tr>
<th>Category acc. to § 7 FRL 2008</th>
<th>Priority 1</th>
<th>Priority 2</th>
<th>Priority 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competitor</strong> who is responsible for the contamination and is solicitor of the aid → “de minimis” aid</td>
<td>up to 65% max. EUR 200,000.-</td>
<td>up to 60% max. EUR 200,000.-</td>
<td>up to 55% max. EUR 200,000.-</td>
</tr>
<tr>
<td><strong>Non-competitor</strong> who is responsible for the contamination and is solicitor of the aid</td>
<td>up to 65%</td>
<td>up to 60%</td>
<td>up to 55%</td>
</tr>
<tr>
<td>No person responsible for the contamination exists or can be held liable, and contamination before end of 1959</td>
<td>up to 95%</td>
<td>up to 80%</td>
<td>up to 65%</td>
</tr>
</tbody>
</table>
Financing remediation of contaminated sites in Europe

EEA member countries:

- **80,000** sites cleaned up in the last 30 years
- Potentially polluting activities occurred at nearly **3 million** sites
- Approx. **250,000** sites require clean up (8%)

Financing remediation of contaminated sites in Europe - Fund raising

- **Remediation funds - Cooperation between State and Industry**
  eg.: Germany (Bavaria, Nordrhein Westfahlen)

- **Earmarked remediation funds**
  - Belgium: BOFAS fund for remediation of petrol stations
  - Finnland: tax on oil imports only for oil contamination

- **Use of EU-Funds (ERDF, Cohesion)**
  eg.: CZ, Spain, Belgium, Germany (Bavaria)

- **Taxes and fees**
  e.g.: Swizerland, Austria,
Financing remediation of contaminated sites in Austria

AUSTRIA: „Law on remediation of contaminated sites“ (ALSAG)

- Remediation funds generated based on ALSAG
- Fee on waste depositing and incineration (7-87 €/t)
- Earmarked for contaminated sites remediation

=> 1 Billion € ALSAG fee for remediation since 1990
Financing remediation of contaminated sites in Europe – public or private

Annual contaminated sites management expenditures

Sum: Approx 2.100 MEUR

Public: 35%

Private: 65%

2. Private Money - the Danube Region in the context of the European Debt Crisis
Public debt

Global public debt has increased by $24.6 trillion over the last decade, reaching 69 percent of GDP in 2010

Gross outstanding public debt¹ as % of GDP %, end of period, constant 2010 exchange rates

<table>
<thead>
<tr>
<th>Year</th>
<th>Public debt total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>8.9</td>
</tr>
<tr>
<td>1995</td>
<td>12.8</td>
</tr>
<tr>
<td>2000</td>
<td>16.5</td>
</tr>
<tr>
<td>2005</td>
<td>25.4</td>
</tr>
<tr>
<td>2008</td>
<td>31.7</td>
</tr>
<tr>
<td>2010</td>
<td>41.1</td>
</tr>
</tbody>
</table>

$ trillion

¹ Defined as general government marketable debt securities; excludes government debt held by government agencies (e.g., US Social Security Trust Fund).

SOURCE: Bank for International Settlements; McKinsey Global Institute analysis
Danube Region countries are effected by the Debt Crisis – but have no debt to GDP problem

<table>
<thead>
<tr>
<th>Region</th>
<th>% of regional GDP, end of period</th>
<th>$ trillion (constant 2010 exchange rates)</th>
<th>Compound annual growth rate, 2009–10 [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>78</td>
<td>11.6</td>
<td>15.1</td>
</tr>
<tr>
<td>United States</td>
<td>42</td>
<td>11.1</td>
<td>13.4</td>
</tr>
<tr>
<td>Western Europe</td>
<td>48</td>
<td>10.4</td>
<td>14.2</td>
</tr>
<tr>
<td>Other developed</td>
<td>50</td>
<td>2.3</td>
<td>-2.0</td>
</tr>
<tr>
<td>India</td>
<td>44</td>
<td>0.7</td>
<td>-2.3</td>
</tr>
<tr>
<td>Latin America</td>
<td>42</td>
<td>1.5</td>
<td>-9.5</td>
</tr>
<tr>
<td>Other Asia</td>
<td>32</td>
<td>0.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Middle East and Africa</td>
<td>25</td>
<td>0.3</td>
<td>16.0</td>
</tr>
<tr>
<td>CEE and CIS²</td>
<td>28</td>
<td>1.0</td>
<td>12.0</td>
</tr>
<tr>
<td>China</td>
<td>29</td>
<td>1.6</td>
<td>0.0</td>
</tr>
</tbody>
</table>

1 Defined as general government marketable debt securities; excludes government debt held by government agencies (e.g., US Social Security Trust Fund).
2 Central and Eastern Europe and Commonwealth of Independent States.
SOURCE: Bank for International Settlements; McKinsey Global Institute analysis
Refinancing challenges in the coming years

Romania

Slovakia

Hungary

Croatia
CDS spread development for the Danube Region since 2006
C. Project Financing Solutions
How does the crisis unfold in the project finance market?

• shorter tenors with re-financing after 5-10 years
• risk premiums are rising, steep rise in margins visible
• Government guarantees and re-financing guarantees are becoming more common again

➤ not banks hunting deals! ➤ banks have a different risk awareness!
PPP Projects in CEE and SEE 2007-2012

€ million

- closed projects with Commercial Banks
- closed projects with Multinational Banks
- cancelled projects

Jan-07 Aug-07 Feb-08 Sep-08 Mar-09 Oct-09 May-10 Nov-10 Jun-11 Dec-11
Non-recourse Project Finance vs. Forfaiting Model

Non-recourse Project Finance:
- bank finances the SPV
- bank has to take private sector (SPV) risk

→ Higher risk, higher financing margins

= non-recourse financing

Forfaiting Model:
- bank purchases future public sector payments
- bank can rely on rating of the public sector

→ Lower Risk, lower financing margins

= recourse financing
1. Non-recourse Project Finance
The Project Finance model

- Project Sponsor
- Funder
- Funding
- Special Purpose Vehicle (SPV)
- Payment for services
- Building contractor
- FM contractor

Procuring Authority

Annual Payment

use over 20-30 years

INFRA BANKING EXPERTS
1. Non-recourse project financing
Simplified example

could be:
- private equity house
- building company
- FM contractor
- investment bank

could be:
- commercial bank
- IFIs (eg EIB)
- bond finance

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Project sponsor

provides equity (eg 30% of €30m)

funder

provides senior debt (eg 70% of €30m)

Special Purpose Vehicle (SPV)

capital expenditure (€30m)

operating expenditure (€1m per year)

repayment:
- dividends

repayment:
- principle + interest
1. Non-recourse project financing Requirements

• Strong project sponsors

• Stable long term cash flows (eg from feed-in-tariffs, availability payments, etc) based on a reliable regulatory framework

• High reliability of project delivery at planned cost

• Debt sizeing based on the long term cash flows → higher equity requirements

• Full technical and legal due diligence

• Extensive documentation
2. The Forfaiting Model
2. Forfaiting model

Structure

- Public Sector tenders construction, operation and finance in one contract
- Risk transfer to the private sector through an availability model
- Bank purchases future public sector payments to finance consortium
- Public Sector signs „waiver of objections“
2. Forfaiting model

Simplified example

PPP-Payment: EUR 3,75m/a (25y) (no future objections)

annual payment: EUR 4,25m/a (25 y)

Construction costs: EUR 50m
Service costs: EUR 0,5m/a

Procuring authority

Bank

NPV EUR 50m

SPV

guaranteed compensation by shareholders (in case of non-availability)

Construction firm
2. Forfaiting model

Requirements

• Strong credit quality of the „payer“ / the public authority
• Stable long term cash flows
• Full technical and legal due diligence
• Standard documentation
3. The European European Project Bond Initiative
Europe 2020 Project Bond Initiative - From Grants to Investments

2012-2013: Ongoing pilot phase implemented by the EIB


Objectives:
• Stimulate investment in key strategic EU infrastructure in transport, energy and broadband
• Establish debt capital markets as additional financing source for infrastructure projects

How:
• EIB, supported by the EU, provides credit enhancement to project companies by raising senior debt unter the form of bonds to finance infrastructure projects

Investores:
• Such as pension funds and insurance companies

Source: European Commission
Europe 2020 Project Bond Initiative

Illustrative example

Company 1 → SPV

Company 2 → SPV

Company 3 → SPV

Senior debt in form of PROJECT BONDS

Investors buy or underwrite

Project Bond Guarantee Facility

EIB

Risk sharing

Source: European Commission
D. Advisory – Strategic Investment Planning based on a real example
Kommunalkredit – Life Cycle Solution Approaches

▶ Broad range of services and solutions for
  – Widening the financing basis of public infrastructure
  – Relief of public households

▶ Focus on project oriented and structured solutions; Life cycle approach
  – Project Finance and traditional Finance
  – Development of co-operative concepts with risk-taking by operating/construction companies
  – Allocation and procurement of private/institutional capital
  – Grant advisory
  – Relief of public cost structure based on new technologies and processes

Life cycle costs

Net present value

- Construction costs
- Operating costs
- Maintenance costs

economic life of infrastructure

Life cycle costs
Strategic financial planning is a way of „life cycle management“ to actively pursue

Based on a specially created financial model different scenarios are analyzed

• With a specific customized financial model, the life cycle of a plant (about 50 years) and the costs of development are planned in advance and transparent.

• Proactive planning of the transfer payment enables greater re-investment by avoiding excursive developments („Active management fees“)

• Effects of „Simple financial stress“ (higher interest expenses, elimination promotion) depending on investment mix

• Anticipated service life extension of the plant by active advanced care and comprehensive maintenance typically represents the biggest potential for optimization

By strategic financial planning, significant potential for optimization and cost savings could be made transparent and quantified
Project procedure

overview
• Investment planning
  – Workshops
  – perusal of the planning documents
  – Inspection of the plant

• Creation of the financial model („Base Case“)
  – Modeling Input/Output size
  – Analytics
    - amortization
    - Cash-Flow regulation

• Scenario Analysis – Strategic issues in coordination with the AWV
  – Aktive Management of prescriptions (reserves,…)
  – Financial stress effect
  – Livecycle Management – optimizing value over the entire life cycle

Project results will be developed in close collaboration between experts from the KA and the management of the wastewater Association (AWV)
Existing infrastructure

Consisted plant

- 1 union wastewater treatment plant expansion size 1998: 116.000 EW
  Increasing consensus on 140.000 EW
  QTW: 26.000 m3/d

- app. 105 km transport channels complete expansion to app. 165.000 EW

- 28 pumping stations

- etc.

Assessment of the general state of the system is basis for further analysis

Quelle: AWV
Base Case – Alternative course of transfer payments („Active Design“) – schematically

Optimization in conjunction with the investment plan could be identified by analyzing the long-term course of the cash flows.
Scenario Active Life Cycle Management – Course transfers

Active Life Cycle Management

- Proactive current „investment“ in uniform standards of care in the amount of EUR 250 tsd p.a.
- Life extension through selective asset management
- Significantly inhibited growth of transfer payments
- Significant net present value savings

The life of plants is the great value driver over their life cycle. Potential for life extension measures can be quantified well.
E. Project Finance Outlook for the Danube Region
Where we see project financing market looking forward

• trend towards simpler structures

• smaller deals in selected sectors (wastewater, energy efficiency, renewables)

• shorter maturities

• rising risk awareness (equity, regulatory environment, technical assessment)

• stronger involvement of local banks

• stronger involvement of IFIs and ECAs
Widening the Financing Basis

- Financing of investments with public budgets increasingly limited

- Widening the financing basis NECESSARY and POSSIBLE

- Public-Private Sector Cooperations

- Public-Private Partnerships

- Infrastructur funds

- Advisory (Transaction and / or strategic based advisory)
Debt Funds as possible solution

New Sources of Funds: Long-term investors
- Pension Funds
- Insurance Funds
- Other Institutional Investors with a long-term investment focus

Role of the Banks
- Short-Term Financing (i.e., Equity Bridges, Construction Phase Financing)
- Financial Due Diligence
- Arranging & Structuring of Deals

Advantages for Investors
- Adequate Risk-Reward Profile (Operating Risk Phase → Lower Risk)
- Matched Funding
- Sustainable, stable Cash-Flows based on Public Sector Payments in Case of Availability Schemes

Advantages for Sponsors
- Matched Funding
- Lower Debt Costs in comparison with traditional Debt Funding
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