

Financing High-Efficiency Cogeneration in Romania

February, 2015



Banca Comerciala Romana

Profile



BCR brand

- **Established in 1990** by taking over the commercial banking operations of the National Bank of Romania
- Most important financial group in Romania:
 - **Assets: EUR 15bn**
 - **Customers: 3.2mn**
 - **Market Share: 18%** → market leader
- BCR is the **most valuable financial brand in Romania**, according to level of **customer trust** and **number of clients**.



Integration into Erste Group

- Since **2006** a member of **Erste Group**
- Erste Group was **founded 1819** as the first Austrian savings bank.
- Since 1997 Erste Group has developed into one of the largest financial services providers in Central and Eastern Europe,
- **46,000 employees, 16.5mn clients, 2,900 branches in 7 countries**



Commitment to Romania

- Erste Group: **EUR 7.5bn investment in Romania**, through BCR or direct investments
- BCR has **doubled the volume of its outstanding loans since 2006**;
- BCR has been the **main supporter of the Prima Casa program** (60% market share for Prima Casa 4)
- **2013 Erste Group Net Profit: EUR 61mn**

Energy projects

Selected credentials

Energy Sector key interest for BCR and ERSTE Group, as it plays a very important role in the development, sustainability and security of Romania

Private sector

High Efficiency Cogeneration Projects:

- ▶ 42 MWe + 110 MWt



Renewable Energy Projects:

- ▶ 410 MWe



Public sector

Thermal Power Projects:

- ▶ 990 MWe producing only power
- ▶ 82,1 MWe and 1,151 MWt producing in cogeneration
- ▶ 90 MWt producing only heat



Thermal system in Romania

Overview

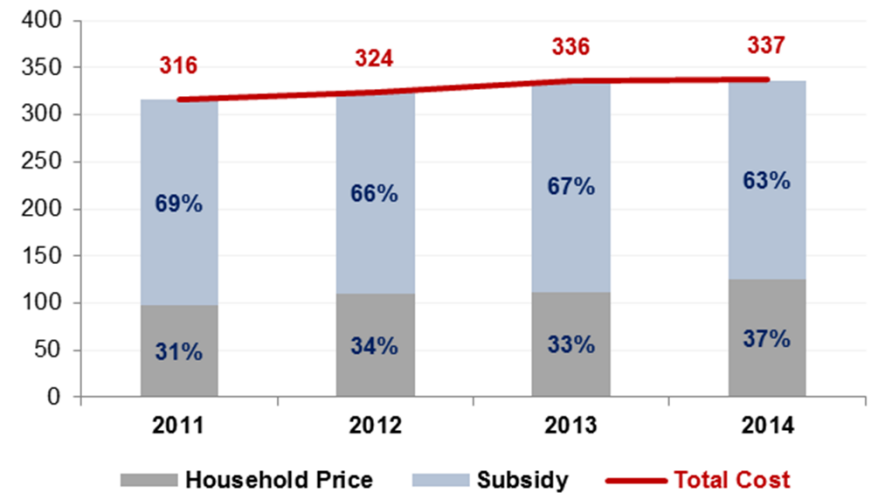
Evolution:

| | |
|-------------|---|
| 1989 | 4,000MW and app. 2.7 mil households connected |
| 2014 | 3,600 MW and app. 1.3 mil households connected (more than 200 cities abandoned the DHS during 1989 - 2014) |

Issues:

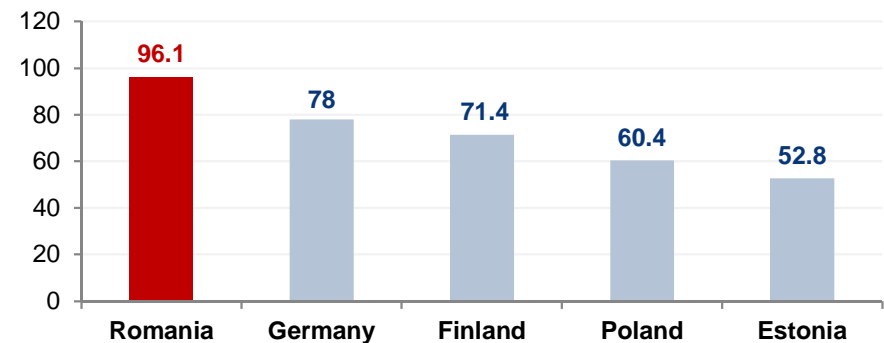
- ▶ Oversized Installed Capacity in Romania;
- ▶ Massive Disconnections (every year 2-5% of total number of flats turn to Individual heating systems);
- ▶ Cogeneration used in only 20 out of 95 Cities with DHS;
- ▶ Regulated Prices in order to protect the Consumer;
- ▶ Subsidized System, maintaining the inefficiency;
- ▶ Obsolete CHPP and Distribution Networks with Technological Losses of 35-77%;
- ▶ Lack of Funds from Local Authorities for DHS Rehabilitation;
- ▶ New Environmental Constrains for 2016.

Average heat production cost (RON/Gcal)



Source: ANRSC

Heat price - EU comparison (USD/Gcal)



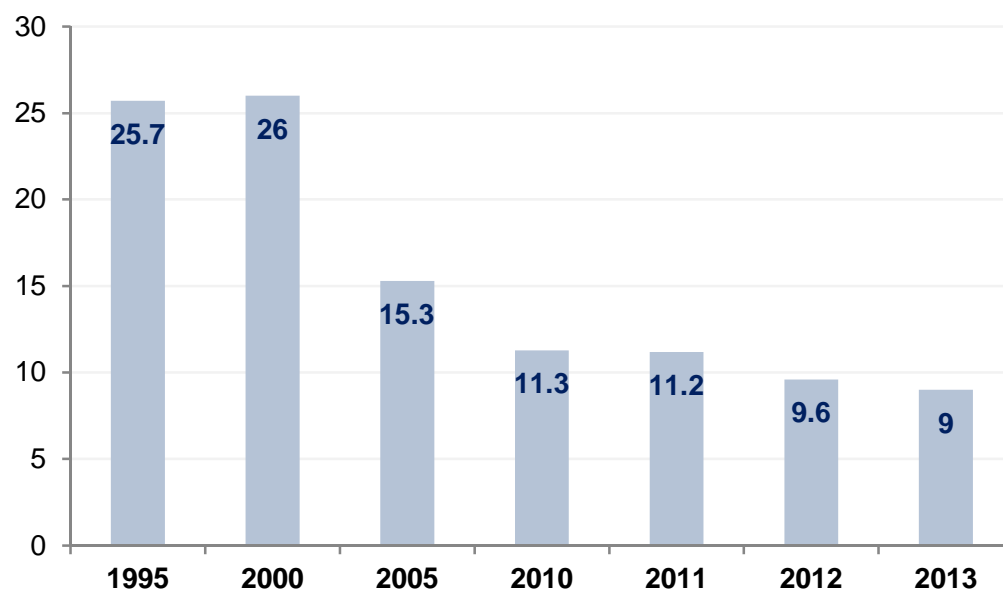
Source: ANRSC

Thermal system in Romania

Overview

- **Total Heat Consumption decreased from 59 mil Gcal in 1992 to 14 mil Gcal in 2013** due to industry contraction and disconnections of residential consumers (switch to individual heating solution boomed 2000-2004).
- **Frequent Insolvency and Bankruptcy for both Heat Producers and Distributors:** Braila, Bacau, Piatra-Neamt, Suceava, Galati, Brasov, Iasi, Drobeta Turnu Severin.
- According the ANRSC the thermal system in Romania is close to bankruptcy: **Cumulated Debt is of app RON 5.5bn vs. Cumulated Receivables of app RON 1.97bn.**

Household Consumption (million Gcal)



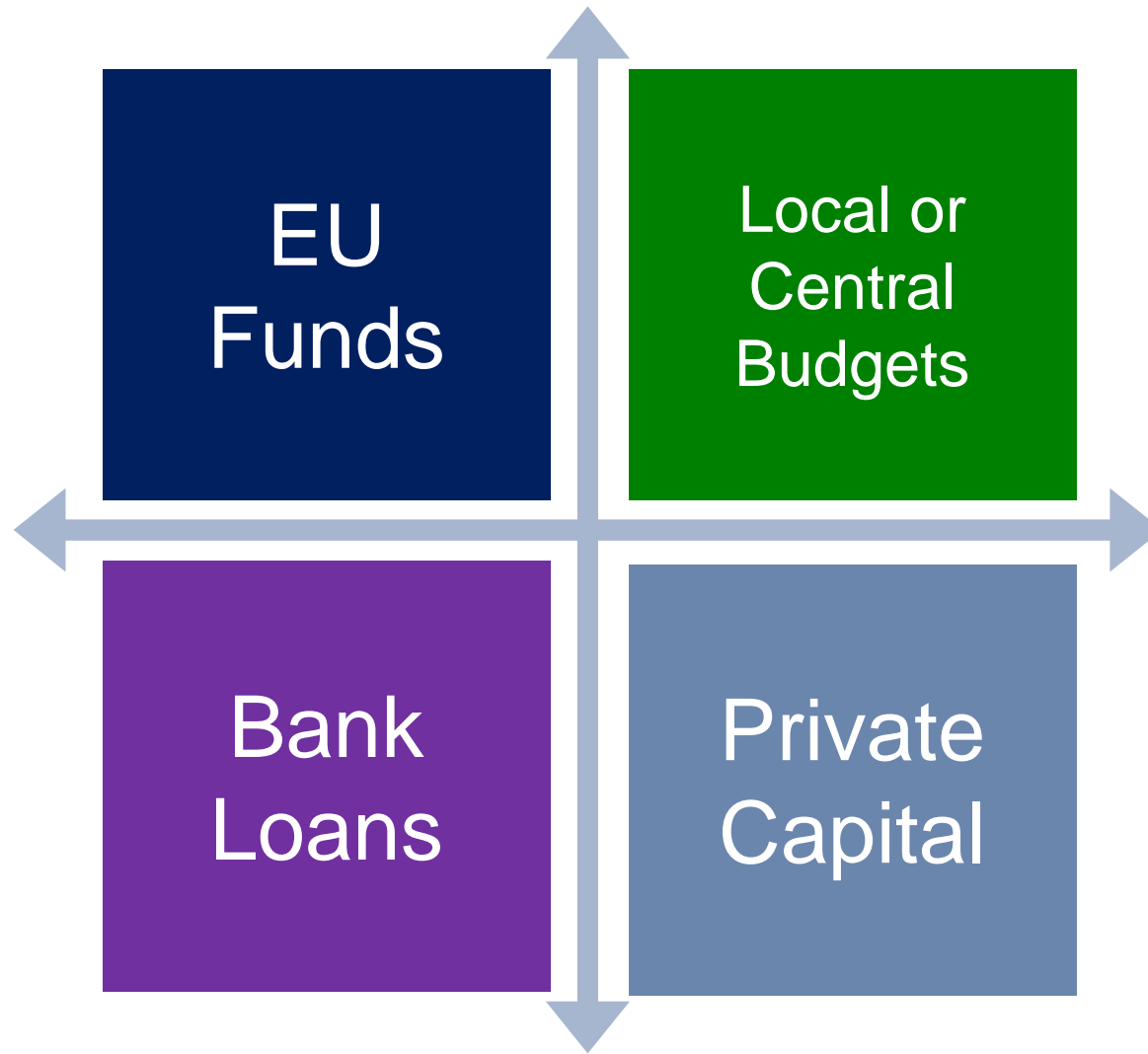
Source: ANRSC

Connection Rate to DHS

| City | 2008 | 2014 |
|----------------|------------|------------|
| Bucharest | 82% | 82% |
| Timisoara | 72% | 52% |
| Ploiesti | 92% | 77% |
| Giurgiu | 95% | 35% |
| Zalau | 5% | 0% |
| Resita | 17% | 0% |
| Paroseni | 27% | 0% |
| Braila | 35% | 0% |
| Average | 65% | 59% |

Support schemes & investments made in DHS

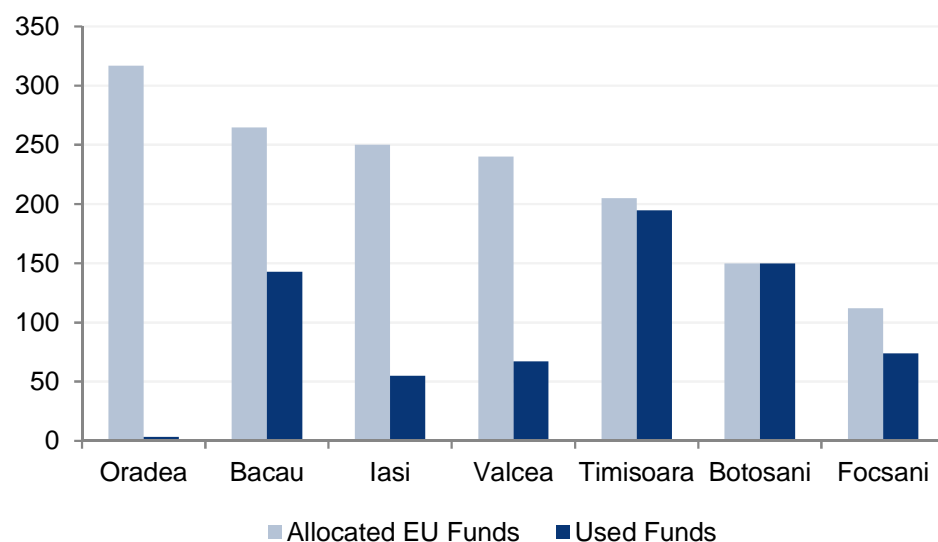
Financing Sources



Support schemes & investments made in DHS

Financing Sources - so far

EU Funds for DHS (million RON)



Source: Managing Authority SOP Environment (May 2014)

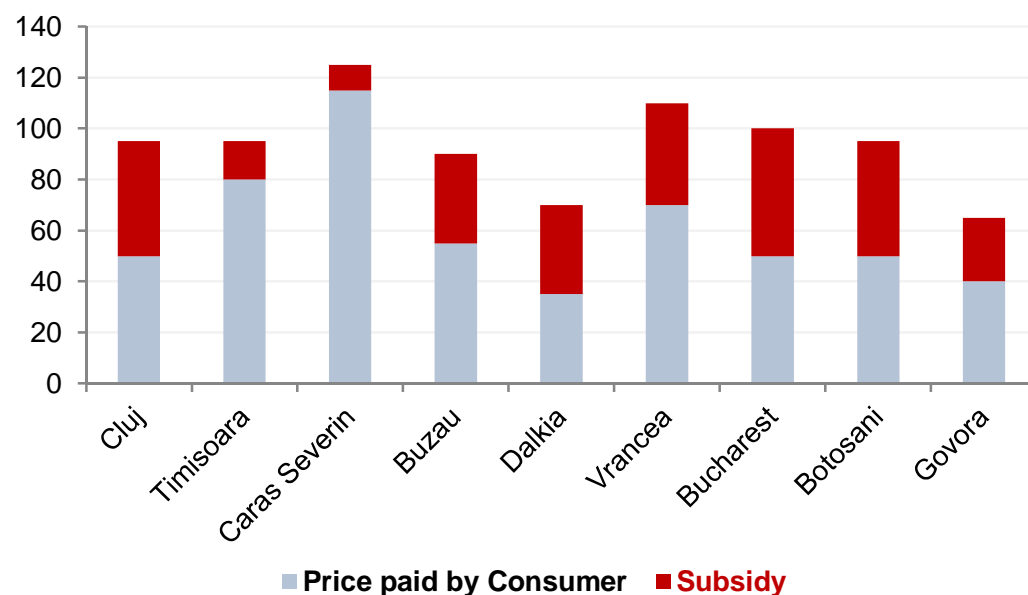
EU Funds for DHS

| City | Amount mil RON | Completion % | Signing | Expected Completion |
|--------------|----------------|--------------|------------|---------------------|
| Oradea | 317 | 1% | 22.06.2012 | 22.12.2014 |
| Bacau | 265 | 54% | 06.09.2010 | 31.12.2015 |
| Iasi | 250 | 22% | 17.03.2010 | 31.12.2015 |
| Valcea | 240 | 28% | 17.08.2011 | 31.12.2015 |
| Timisoara | 205 | 95% | 22.11.2010 | 22.12.2013 |
| Botosani | 150 | 100% | 24.02.2011 | 24.12.2014 |
| Focsani | 112 | 66% | 08.03.2011 | 08.01.2015 |
| TOTAL | 1,539 | 45% | | |

Support schemes & investments made in DHS

Financing Sources - so far

Subsidies from Local Budget (USD/Gcal)



Direct Investments

- ▶ **RON 2.12bn** allocated **between 2006-2015** for “*Termoficare 2006–2015 Caldura și Confort*” program (heat network rehabilitation) = **70% co-financing** from the **Government** (30% provided by the **Local Authorities**)

Regulatory Decisions

- ▶ Timisoara Local Council Decision: obligation for public institutions and new buildings financed from the local budget to be connected to the central heating system => **disconnections limitation**

Operating Subsidies

- ▶ The total value of the operating subsidies granted yearly by the local authorities for CHPP is estimated at EUR 1.0bn

Guarantees for Investment Loans

Support schemes & investments made in DHS

Financing Sources - going forward

Available EU funds

Large Infrastructure Objectives for Climate Change (EU funds – draft paper 2014-2020)

OS 7.1

- For projects smaller than 8MW
- In order to save 70,000t CO₂

EUR 57mn - cogeneration: additional 50MWe (90% natural gas, 10% biomass/biogas)

EUR 85mn – biomass: additional 60MWe (mainly for large industrial heat consumers)

OS 7.2

EUR 292mn - energy transport and distribution: technological losses to be reduced from 27% to 15% by 2023 in Bucharest

Biomass: renewable energy source (RES) still benefits from financing programs and can produce in cogeneration

- ▶ Abundant biomass supply in Romania
- ▶ Emphasis on biomass projects by the Energy Strategy of Romania for 2020-2035
- ▶ Renewable Energy Action Plan envisaged that until 2020:
 - Heat Target: from 1,300MWt to be replaced → 200MWt (15%) should be new units running on biomass
 - Electricity Target for 2020: 600MWe produced from biomass
- ▶ Currently only a marginal thermal energy was generated from biomass sources

Despite the Available EU funds the Existing Incentive Schemes (please see next slide) are not sufficient for cogeneration projects sustainability => NEW/SEPARATE INCENTIVE SCHEME IS NEEDED

Support schemes

Existing Incentive Schemes

Two Incentive Schemes Applicable for New Projects

Green Certificates (GCs) (Law 220/2008)

- ▶ **Applicable from 2011** for projects accredited until end of 2016;
- ▶ **For a period of 15 years** from accreditation;
- ▶ **Electricity producers** from renewable energy sources receive a certain number of GCs per technology for each MWh injected into the grid;
- ▶ **Electricity suppliers** must buy a certain number of GCs for each MWh supplied to the final consumers.

Main problems:

- ▶ **Retroactive regulatory changes** and high risks related to the remuneration of GCs;
- ▶ Only for projects accredited until end of 2016;
- ▶ **No acquisition quotas after 2020.**

Cogeneration Bonus (Law 13/2017, HG 1215/2009, Order 3/2010)

- ▶ **Applicable from 2011 until 2023;**
- ▶ **Regulated Asset Return of 9% for Regular CHPP;**
- ▶ **Bonus for High Efficiency CHPP** revised annually by ANRE to maintain a real return rate of 9% + the difference in cost to regular CHPP;
- ▶ **Fixed Electricity Price:** 90% of DAM starting 2013;
- ▶ **Recommended Heat Price:** published by ANRE for 11 years calculated for an equivalent electrical only unit that uses that same fuel.

Main problems:

- ▶ The incentive scheme ends in 2023;
- ▶ The heat price is recommended not guaranteed.

Financing prerequisites

Cogeneration power projects in Romania

Constraints

- ▶ **Obsolete DHSs** (production facilities; distribution and transport networks and end user installations);
- ▶ **Cogeneration not widely used;**
- ▶ **Lack of adequate regulatory framework and unitary approach** for modernization of existing CHPP and new investments;
- ▶ **Lack of long term view and support from local authorities;**
- ▶ Current subsidized price maintain the inefficiency;
- ▶ **Insufficient incentive schemes** for producers;
- ▶ **High rate of disconnections;**
- ▶ **Industry contraction;**
- ▶ **Poor collection rate and delays in subsidies payment;**
- ▶ **Frequent insolvency and bankruptcy** cases among heat producers and distributors;
- ▶ **Limited EU support;**
- ▶ **Environmental issues.**

Must haves

- ▶ **Modernization of the entire system**, from producers to end users;
- ▶ **Support for High Efficiency Cogeneration**, as a solution for DH;
- ▶ **Urgent and adequate legal framework;**
- ▶ **Clear and updated strategy at the country's level** for DHS rehabilitation;
- ▶ **Long term view and active support of municipalities**, including limiting the disconnection of households from the DHS;
- ▶ **Subsidies should protect the vulnerable consumer not an inefficient system;**
- ▶ **Deregulation of gas price** from the government in order to urge the need of investments.

BCR financing approach

Cogeneration power projects in Romania



Market

- **Capacity to be installed/ upgraded** under high-efficiency support scheme: **4,000 MW**
- **Installed** new high efficiency cogeneration **capacity: <100 MW**
- **Average** investment: **EUR 0.7mn/MW**
- **Total** estimated investment: **EUR 2,500mn**



Structure

- **Debt-to-Equity – up to 65:35**, depending on project parameters
- **Investment Loans; VAT and Working Capital Facilities**, if needed
- **Legal and technical DD**
- **Maximum repayment period: 10 years, 1 year tail** compared to incentive scheme duration (current high efficiency cogeneration bonus scheme)
- **DSRA of 25-50%** of annual debt service
- **Mortgage over Assets, Shares and Recourse on Sponsor** (applicable for some cases)
- **Financial covenants:** DSCR (Debt service cover ratio), Net debt to EBITDA (Leverage ratio)

Financing Requirements from Client

Cogeneration power in Romania

Advantages

- ▶ High unutilized potential (especially for small gas plants);
- ▶ Reliable energy source (high load factor);
- ▶ Low technology risk (proven technology);
- ▶ Stable energy production;
- ▶ High efficiency → responsible use of energy sources.

Main risks

- ▶ Complex operation phase;
- ▶ Disconnections;
- ▶ Regulatory risks associated to incentive schemes;
- ▶ Poor collection rate for the producer (non-payment from end users, losses, subsidies paid with delays).

Critical success factors

- ▶ Strong Sponsor committed to the project able to cover any adverse change in the regulatory scheme;
- ▶ Strong EPC Agreement – experienced constructor, and supplier of technology;
- ▶ Clean legal and technical due diligence performed by the Bank's consultants;
- ▶ Performance Guarantees and Maintenance Agreement from technology supplier;
- ▶ **A.** Long-term Off-take Agreements for heat (financial standing and minimum number of connections of the heat distributor) **OR**
B. Integrated business where the producer also operates the grid;
- ▶ Upgraded grid with reduced losses;
- ▶ Guaranteed payments from the supplier to the producer (from the local municipality, escrow accounts etc.);
- ▶ Insurance cover during construction and operation for project company and construction & technology suppliers.

Financing Requirements from Client

Cogeneration power projects in Romania

Technical requirements

- ▶ The producer should have a sound track record and financial standing;
- ▶ An experienced EPC contractor or technology and construction suppliers offering market standard guarantees → performance; parameters evaluated by the technical advisor;
- ▶ Production forecast based on estimated heat consumption and data prepared by the technical advisor;
- ▶ A long term maintenance contract to be concluded either with the technology supplier or other qualified O&M service providers for the life time of the loan.

Due diligence requirements

- ▶ Detailed construction budget, construction program and financial model of the project;
- ▶ Contractor and Supplier of technology anticipated, basic conditions of the contract (unit price, payment schedule, warranty period, scope of warranty);
- ▶ DH distribution capacity, number of connections, financial standing of distributor and supplier, if applicable and consumption studies;
- ▶ Draft heat off-take agreement (if business is not integrated);
- ▶ Track-record of site operator;
- ▶ Environmental due diligence;
- ▶ Technical due diligence covering: consumption study review, technology solution review, production off-take possibilities, technology supply and O&M Contracts;
- ▶ A legal advisor confirming all necessary permits, approvals, licences and authorisations in relation to construction, grid access and operations are in place prior to loan approval;
- ▶ An external insurance adviser.

Financing Energy Projects in Romania

Risk Mitigation Mechanism



Additional payment obligations from sponsors in order to mitigate certain risks (e.g. cost overrun risks)

Debt Service Reserve Account (additional cash-flow buffer of 3-6 months debt service)
 Maintenance Reserve Account

Exact order for the use of the project's cash (Opex, Taxes, Senior Debt, Capex, Project Accounts Replenishing)

Agreements regarding application/distribution of annual surplus liquidity (mandatory prepayment)

Distributions lock-ups: e.g. only allowed if certain financial ratios are met, phasing, etc.

Benefit from longer loan maturities and political and commercial risk cover (ECAs)

Preparation

- Preliminary analysis
- Project finance LOI/ Indicative term-sheet

Execution

- Due-diligence (technical, legal, environmental etc.)
- Committed financing offer subject to satisfactory DD and fulfillment of all key T&Cs as per the ITS

Financial closing

- Financing documentation signing
- Available financing subject to CPs fulfillment

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