

# Maritza East III, the first private power deal in Bulgaria

At a time when financing of power projects in well developed markets in the West has never been more challenging, the European Bank for Reconstruction and Development (EBRD) and several international and Bulgarian commercial Banks have signed €348m of senior debt for the Maritza East III power plant in Bulgaria. The tenor of the facilities range from 12 years by the commercial banks to 15 years by the EBRD enabling the plant to provide cost competitive power to the Bulgarian system. By Nandita Parshad and George Giaouris, EBRD.

This is an interesting example of how, even in a difficult environment, a well structured project financing with strong economic fundamentals, constructive cooperation from the host government and substantial support from IFIs such as the EBRD and Multilateral Investment Guarantee Agency (MIGA) can attract commercial sources of financing with significant tenor. Described below is the background to the project, the Bulgarian electricity sector, the long development history of the transaction and ownership of the project, the financing plan, contractual structure and key investment considerations.

## MEIII project

The rehabilitation and environmental retrofit of the Maritza East III power plant (the MEIII project) for a total project cost of 650m, is the first private power sector project in Bulgaria as well as the largest foreign direct investment to date in the country.

The Maritza East III power plant is an 840MW (nominal gross output) lignite-fired power plant of four independent generating units, located near Stara Zagora in south central Bulgaria, 60km from the Turkish border, near significant deposits of lignite (80% of Bulgaria's domestic fuel reserves). With 7% of the country's installed capacity, the power plant is a key component of the Bulgarian generating system supplying both base and middle order demand. The power plant has been operational for approximately 20 years and the aim of the Project is to rehabilitate the plant to improve output and efficiency and to extend operating life, for at least an additional 15 years.

The lignite fuel used at the plant is high in sulphur and SO<sub>x</sub> emissions are well in excess of Bulgarian and international standards. Therefore, the Project also aims at improving the environmental performance of the plant with the installation of flue-gas

desulphurisation (FGD) units to reduce emissions of SO<sub>x</sub> by more than 90%, thus bringing it in compliance with Bulgarian, European Union and World Bank environmental standards for existing plants.

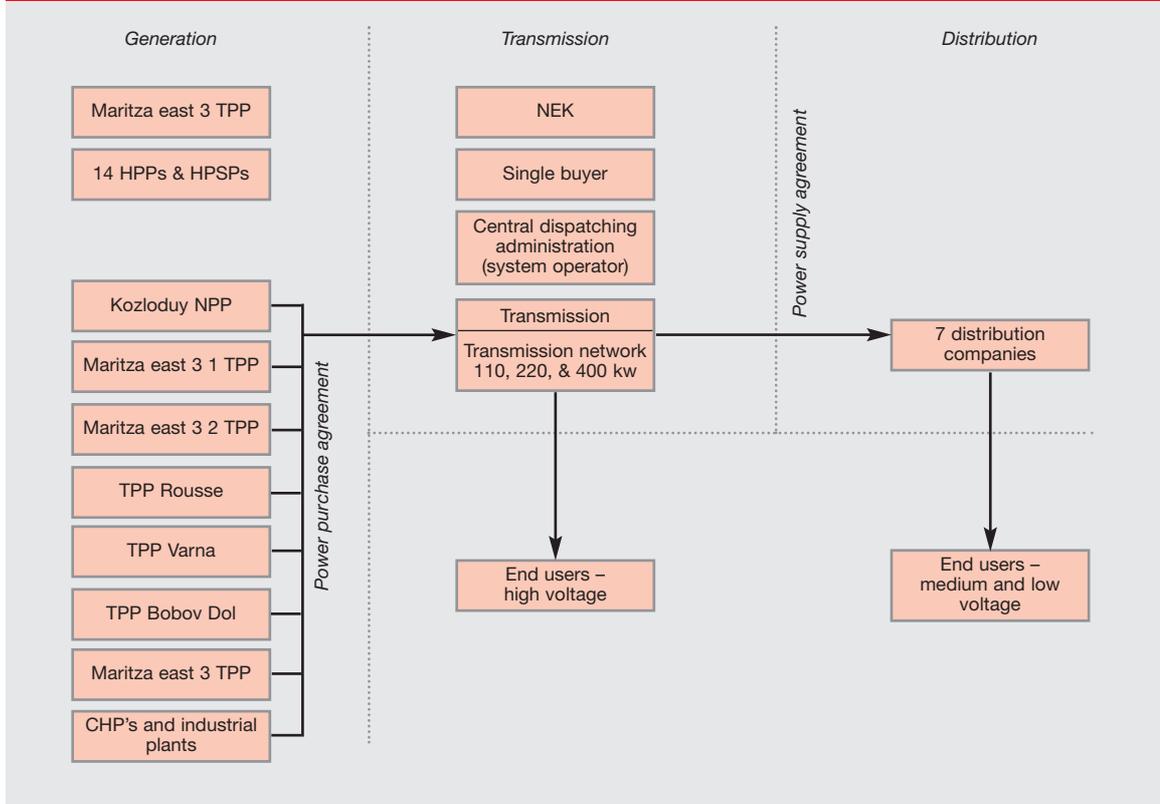
## Bulgarian electricity sector

Bulgaria has a total gross capacity of 13,130MW, with thermal power plants making up approximately 50% (6,550MW), hydro capacity making up approximately 20% (2,820MW), and Kozloduy nuclear power plant about 30% (3,760MW) of this capacity.

Since 1999, the Government of Bulgaria has undertaken a process to restructure the power sector in accordance with the EC Electricity Directive and raise private financing for rehabilitation of power generation. A progressive Energy Law was adopted in 1999, which provided for an independent regulator, SERC, and in 2000 the Government unbundled the then vertically integrated monopoly power company, NEK into 7 generating, 7 distributing and one transmission companies. (Chart1). Once the reforms are complete it is intended that NEK's sole business will be that of a Government-owned monopoly transmission and dispatch company which will act as the single buyer and be responsible for imports and exports.

In March 2002, the Government of Bulgaria adopted a new Energy Strategy, in compliance with the main principles governing EC energy policy. The Strategy identified the establishment of a competitive energy market as a top priority for the sector, while also emphasising the need to develop a more reliable and environmentally friendly electricity supply. As a result of this new strategy, third party access is expected to be gradually introduced from 2003 onwards, privatisation of distribution companies is expected to start by the end of 2003, with privatisation of remaining generators to follow in 2004, (with the exception of the nuclear plants that will remain state owned).

**Chart 1 - Bulgarian electricity industry**



**Development history**

The development of the MEIII project started as far back as October 1997 when Entergy Power Development Corporation (Entergy), a subsidiary of the US utility Entergy first visited Bulgaria to explore investment opportunities for export to Turkey. In October 1998 Entergy entered into a Joint Development Agreement with Natsionalna Electricheska Kompania (NEK) the Bulgarian state-owned electricity company and formed a joint venture company, Maritza East III Power Company AD (JVC) that would acquire, own and operate the Plant as well as carry out and finance certain improvement works. At the time it was envisaged that the JVC would operate the plant on a tolling basis with NEK taking responsibility for the supply of the fuel. In December 1999 Entergy mandated the European Bank for Reconstruction and Development (EBRD) to lead the financing for the proposed project. However, following the restructuring of the Bulgarian energy sector in 2000 NEK and the government decided not to pursue a tolling arrangement but to change the contractual structure to a classic IPP with separate power purchase and fuel supply agreements. This led to a prolonged re-negotiation of contracts and the power purchase agreement (PPA) between the JVC and NEK (as the power purchaser) was only signed in

June 2001. The remaining key project agreements were signed soon thereafter and the JVC started the process of seeking commercial bank financing to complement the EBRD. In December 2001 Credit Agricole Indosuez (CAI) and SG were mandated as mandated lead arrangers and agreed to underwrite a facility to be covered by political risk insurance to be provided by MIGA. Later several other banks joined the financing as detailed below.

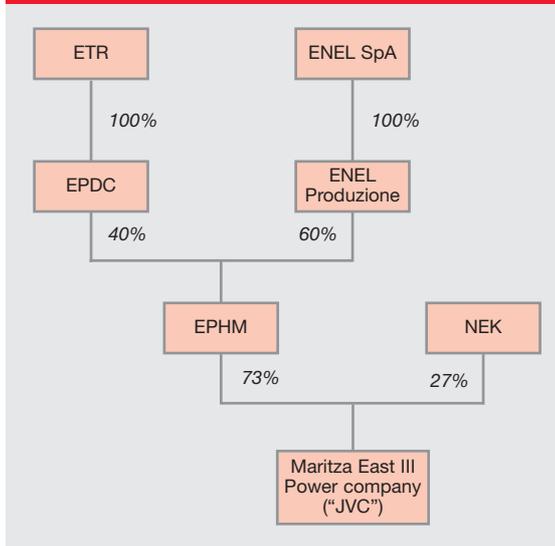
**Project ownership**

The JVC will be the owner of the plant, following its transfer from NEK at financial close, and the borrower under the financing agreements. The JVC is owned 73% by Entergy Power Holdings Maritza BV (EPHM), a subsidiary of Entergy, and 27% by NEK, reflecting the capital contribution of the respective shareholders.

Following a corporate restructuring and a strategic decision to withdraw from Europe, in September 2002 Entergy decided to sell part of its ownership of EPHM to ENEL Produzione SpA (ENEL), a wholly owned subsidiary of ENEL SpA. ENEL agreed to acquire 60% ownership of the EPHM with a view to gradually obtain full ownership, as improvement works on the plant progress further (Chart 2).

# Features Maritza III

**Chart 2 - Ownership of JVC as of financial close**



## The MEIII project structure

The project is structured around a suite of co-ordinated agreements allowing the JVC to manage and allocate the various risks and obligations associated with the Project as follows (Chart 3):

The JVC has entered into a turnkey engineering, procurement and construction contract (the EPC contract), with a consortium comprised of DSD Dillinger Stahlbau GmbH (DSD), RWE Industrie-Lösungen GmbH (the contractor). DSD is a subsidiary of Ferrostaal AG, in turn a member of the MAN Group. RWE Industrie is a subsidiary of RWE Solutions, which itself is a subsidiary of RWE AG. The contractor will refurbish the existing four generating units and boilers and will install two FGD units connecting all four generating units at the power plant (the improvement works). The improvement works are projected to take approximately three years to complete.

The operation of the power plant will be governed by a long-term power purchase agreement (PPA) with a term covering the duration of the improvement works and a further period of at least 15 years (ie at least 18 years in total). NEK (the off-taker), has committed to certain minimum levels of dispatch of the power plant under an availability based PPA. These minimum levels have been set to ensure that the minimum take levels under the lignite sales agreement are met. The plant is required to meet availability targets of 70% during the improvement works period, and 80% to 82% thereafter in order to receive the full capacity payment under the PPA. The average all-in tariff negotiated under the PPA is equivalent to €3.57/kWh as of 28 February 2003, and is subject to indexation. The tariff has been approved by the State Commission for Energy

Regulation (SCER or the regulator) and, in the current environment of the Bulgarian energy market, is very competitive. A key feature of this PPA is that it anticipates the proposed liberalisation of the Bulgarian electricity market. The JVC is bound, if required by NEK, to use reasonable endeavours to enter into direct bilateral contracts with third parties. This obligation is subject to lenders' approval. However, the lenders were comfortable with this provision as the economic assessment of the plant ensures its competitive position in a liberalised power market in Bulgaria.

Lignite supply to the plant will continue to be sourced from the adjacent Troyanovo Maritza East mine complex, by Mini Maritza Iztok EAD (MMI), a state owned mining company, under a lignite supply agreement (LSA) with a minimum take-or-pay obligation and a term matching the term of the PPA. The limestone required for the operation of the FGD unit, will be supplied from existing Bulgarian quarries under a limestone supply agreement signed between the JVC and local suppliers.

Operation and maintenance of the plant will be carried out by Maritza East III Operating Company AD (the operator), a company jointly owned by Entergy (63%), NEK (27%) and ENEL (10%), (collectively the sponsors) under an operation and maintenance services agreement signed between the sponsors and JVC. The O&M agreement provides that the Operator will operate, maintain and manage the plant throughout the 18 year project life. JVC also signed separate asset and construction management agreements (ACMAs) with the sponsors pursuant to which the operator will provide certain asset and construction services to JVC in relation to the Plant against payment of service payments and a management fee. Moreover, separate technical services agreements (TSA) set out the terms and conditions upon which Entergy and ENEL have agreed to provide certain services, including the secondment of personnel, to the Operator.

Transfer of the plant's ownership and existing workforce has been carefully negotiated under separate agreements between the NEK, JVC and the operator. More specific, a transfer agreement provides for the transfer by NEK to JVC of the plant and related rights and interests. JVC will pay in shares for the fixed assets and in cash (€32.1m) for the other assets (spares, fuel stocks, etc.). The existing NEK employees at the Plant will transfer to the Operator under the employee framework agreement.

The relationship between the shareholders and JVC, and their obligations in connection with the equity financing of JVC are governed by an investment and shareholders agreement (EISA). The principal obligation of the shareholders under the EISA is for NEK to contribute the plant and cash and

for EPHM to contribute cash as the equity required in accordance with the financial plan agreed. The making of these equity contributions is a condition precedent to financial close.

## The MEIII financing

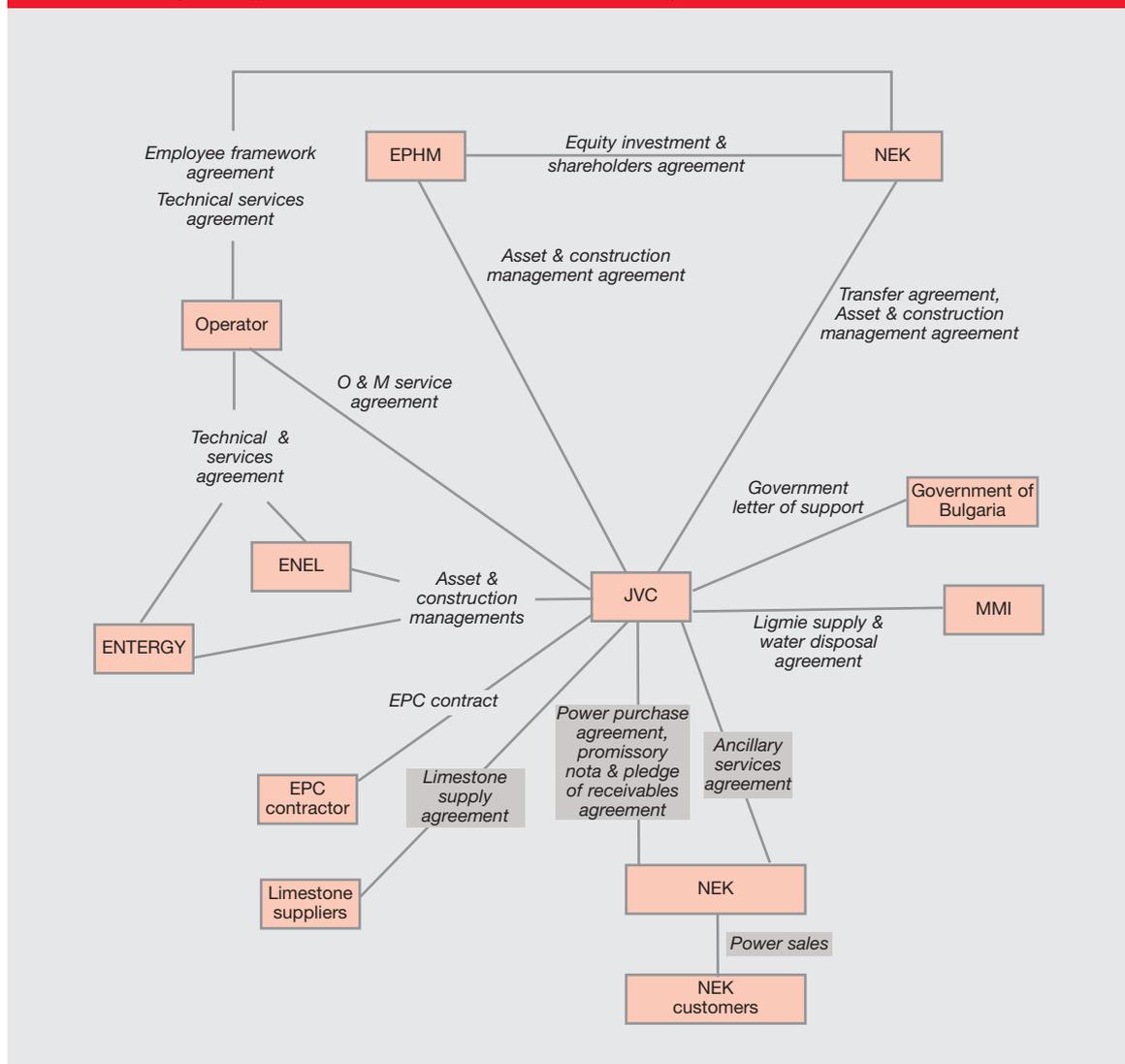
The €650m total project cost is covered from senior debt, shareholders contributions (equity injection and equity in kind) and internal generated cash in a ratio of 53/23/24 (debt/equity/internal cash).

A total of €348m in loans were signed on 28 February 2003: with EBRD for €132.1m; with Crédit Agricole Indosuez, Société Générale, Banca Mediocredito and Bank Austria for a MIGA covered facility of €140.7m; with four Bulgarian banks: Bulbank, UBB, Biochim and SG Expressbank for

€75m. At financial close, EBRD has novated €20m of its facility to the Black Sea Trade and Development Bank (BSTDB).

The MEIII financing is the first time that Bulgarian banks have committed to lend such amounts on a non-recourse basis, which highlights the strengthening of the local financial sector following recent Bulgarian bank privatisations. The international facility is supported by MIGA providing political risk insurance to the lenders. The MIGA insurance will cover 95% of the total principal and interest under the international facility and will cover war, political violence currency transfer restriction and expropriation. The local facility is not covered by the MIGA insurance. The EBRD and BSTDB facilities have a tenor of 15 years, while the international and local facilities have a tenor of 12 years.

**Chart 3 - Project agreements and commercial arrangements**



According to a market study undertaken on behalf of the lenders, MEIII is the least expensive option for the sector and is also favourably placed in the country's dispatch merit order. It compares favourably on a total cost basis to alternative projects

The facilities are secured by a comprehensive security package made available on a pari-passu basis to all lenders. More specific, lenders will receive a secured interest over all the assets of the JVC and an assignment of the Project Agreements and any insurance proceeds. The lenders will also receive a pledge of the shares owned by the JVC's shareholders. NEK will also provide to the JVC an assignment of receivables from three distribution companies, backed by a promissory note to secure its short-term payment obligations under the PPA. The lenders also benefit from a nine month Debt Service Reserve Account.

### Key investment considerations

*Strong local support.* The project is a key element of Bulgaria's long-term strategy of attracting foreign investment in the country and in the development of the government's energy strategy. To this end, the Bulgarian government has demonstrated its support for the project via a government support undertaking. In this undertaking the government agrees to take all measures to ensure the operation of the state-owned enterprises under the project agreements. Additional local support for the project has also been demonstrated by the significant involvement of four Bulgarian banks in the financing.

*Tariff competitiveness.* According to a market study undertaken on behalf of the lenders, MEIII is the least expensive option for the sector and is also favourably placed in the country's dispatch merit order. The study also found that MEIII compares favourably on a total cost basis to alternative potential projects including rehabilitation of existing lignite fired plant and new coal/gas fired plant (other thermal plants in Bulgaria rely on imported fuel with all of the consequential cost and availability risks).

*Allocation of key project risks.* The key project risks have been allocated to experienced counterparties under the project agreements:

- Operating risks: NEK has operated the plant successfully since 1978. Entergy, which will be responsible for initial operations, is one of the most experienced utilities in the USA. ENEL, a division of the former state-owned utility of Italy, has extensive experience in operating thermal power plants;

- Construction risks: Both DSD Dillinger Stahlbau GMBH and RWE Industrie-Lösungen GMBH have proven track records in constructing and refurbishing power plants. RWE Industrie-Lösungen GMBH most recently completed two FGD units at the Maritza East II plant;

- Off-taker risks: As mentioned above, NEK's payment obligations to JVC will be secured by a pledge of receivables agreement and by a promissory note securing the revenue from the 3 distribution companies. Under this agreement NEK's receivables equivalent to at least 1.25 months of maximum total payment will be pledged to the JVC and related revenues will flow through a designated bank account which the JVC will become entitled to operate in the event of late payment by NEK. The promissory note will be for a similar amount and may be enforced against NEK in the event the amount outstanding from NEK is not recovered as contemplated by the mechanism established under the pledge of receivables agreement.

- Lignite supply risks: MMI has supplied lignite to the Maritza complex since 1952 with fully satisfactory track record of delivery and has sufficient reserves to supply the project;

*Project economics.* The project benefits from strong project economics with conservative financial and operational assumptions. The Base Case scenario shows average and minimum debt service coverage ratios of 1.85x and 1.67x respectively.

### Conclusions

While the Maritza East III project took a very long time to develop and finance, by the time the finance agreements were finally signed the macroeconomic and political situation in Bulgaria had improved considerably and the profile of the sponsors strengthened with the entry of ENEL. In its final shape it is a competitively priced power project, with well structured contracts and appropriate allocation of risks. The direct involvement of EBRD, the political risk coverage from MIGA and the appetite of local banks have all contributed to the successful financing. The general syndication of the MIGA covered facility will be launched even as we go to print and preliminary indications are that there will be a very positive response from the market.