CHAPTER-9

PROJECT FINANCING OF AGG

9.1 OVERALL STRUCTURE FOR PROPOSED AGG

In each country, Project execution company should have flexibility in choosing an appropriate legal structure for the SPV (Special Purpose Vehicle) based on its individual requirements whether in form of a company (with or without a company as a trustee), MF, a statutory corporation, a society, firm, etc. In short, all possible forms of a business entity that is capable of being formed should be in place. Consequently, the provisions of the parent law for incorporation of such entity, i.e., the Companies Act, Trust Act, the Partnership Act, etc. will apply to the formation of such SPVs. While different forms of SPVs have evolved in various markets, Indian mortgage sector has taken cues from the US market.

Project Execution Company would be the single regulatory body for laying pipeline, and fulfilling the supply demand for natural gas across the Asian countries, without any conflicts like to provide finance, supply demand, geopolitical or environmental issues, etc. The recommended structure is shown in Exhibit 9.1.

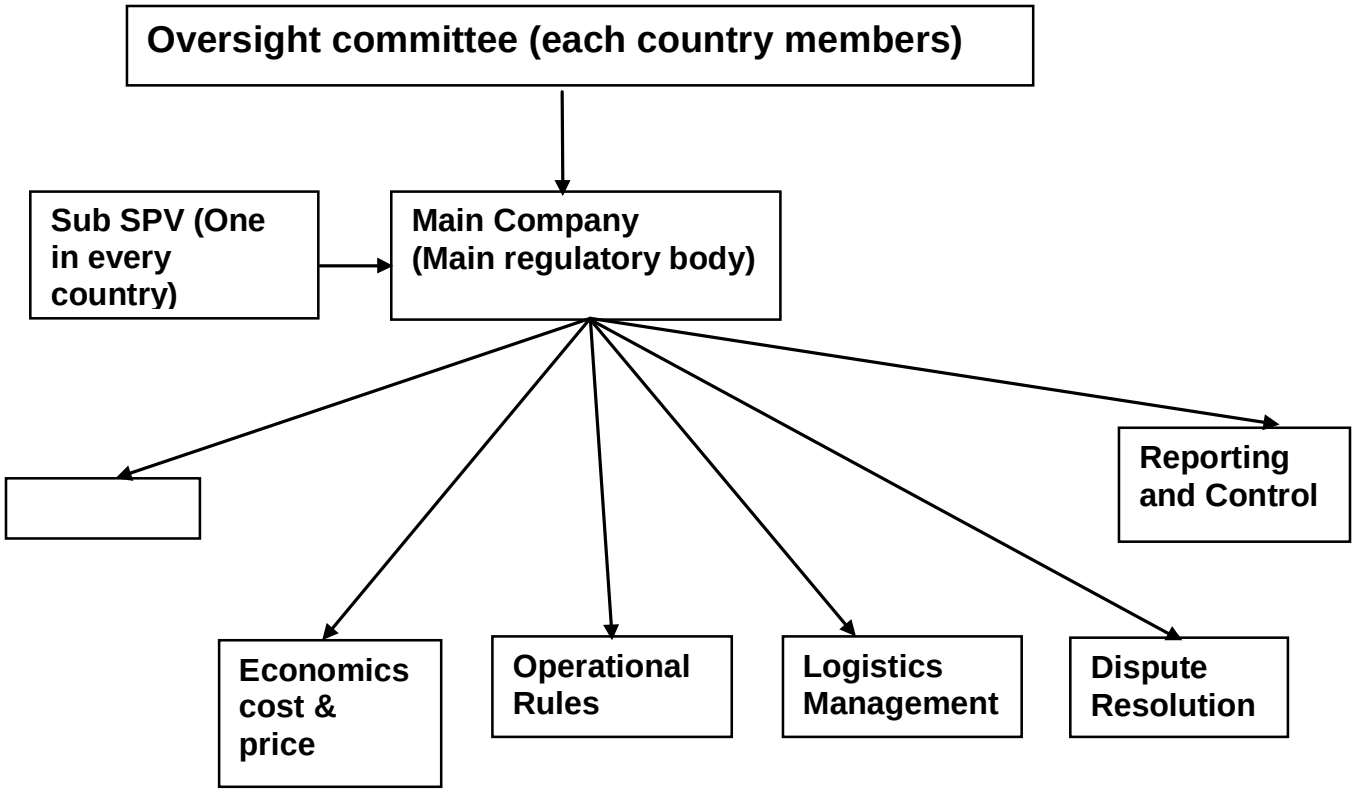

Exhibit: 9.1 Overall Structures for Proposed AGG Pipeline

The main regulatory body in such projects is responsible for converting a concept into a running project. It would have a role in setting up a project vehicle, identifying and recruiting right managerial talent to implement and run the project, and finally subscribing to a significant proportion of equity and debt in the project vehicle.

An independent company would be formed in each country for the construction and operation of the gas pipeline in that country. For example, we can form AGG (India) Ltd. for the financial and operation management of the cross-country pipeline portion in India, and similar companies in each country as shown in Exhibit 9.2.

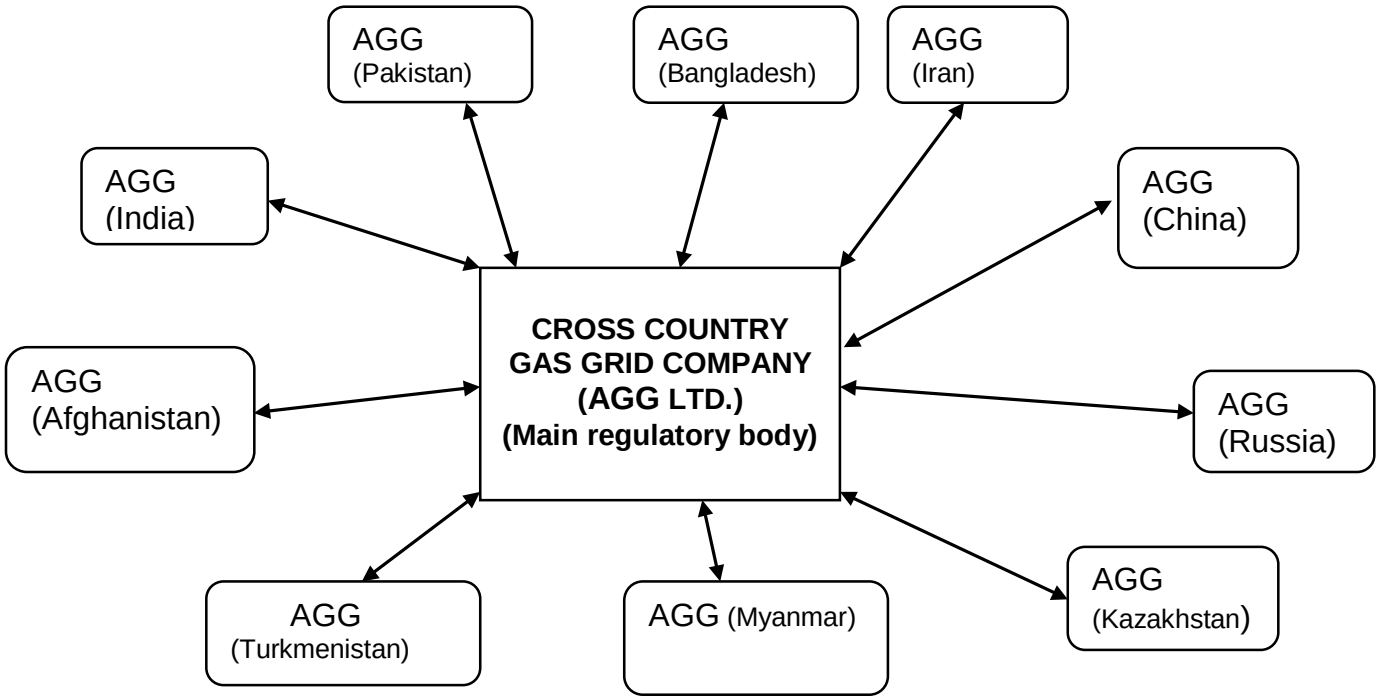

Exhibit: 9.2 Proposed Configuration of AGG Ltd

The proposed structure of AGG project can be as under

1. **Asian Energy Charter (AEC).** This will act as the main regulatory body, wherein all the participating countries of AGG will be members.

2. **Special Purpose Vehicle (SPV)** for execution of particular limbs, wherein countries of a particular limb will be part of that SPV. However, some members in the board of the said SPV will be from AEC.

3. **Country-wise consortium** of companies for laying, operation and maintenance of the pipeline in the respective countries.

For financing of the project, AEC finance wing will have major role. Broadly they are responsible for the following:

a) Securitization

The main regulatory body would be used to securitize loans (or other receivables). This body would keep the records of supply-demand of each participating country, For example, a bank may wish to issue a mortgage-backed security whose payments come from a pool of loans. However, these loans need to be legally separated from the other obligations of the bank. This is done by creating an SPV, and then transferring the loans from the bank to the SPV.

b) Risk Sharing

The main regulatory body would be used to legally isolate a high risk project/ asset from the parent company, and allow other investors to take a share of the risk.

c) Financial Structure

The main regulatory body would use a SPV to complete this project. SPVs are often used in complex financial schemes which have as their main goal, the avoidance of overrun of coast or manipulation of financial statements. Possibly, the most famous example of a company using SPV to achieve the latter goal was Enron.

d) Regulatory Body

A special purpose entity can sometimes be set up within an orphan structure to circumvent regulatory restrictions, such as regulations relating to nationality of ownership of specific assets.

9.2 PROJECT FINANCING

Project Finance is the financing of, often long-term, industrial projects and increasingly those which provide public services or infrastructure. They are often based on complex financial and contractual structures commonly involving many legal entities. The cash flows from the project are usually the sole means of repaying borrowed funds. Hence, the risk of the transaction is generally measured by the creditworthiness of the project itself, rather than that of its owners (sponsors). Project Finance debt is often termed as "non-recourse." The debt is typically secured by the project assets and the core project contracts.

Practically there are two main types of Project Financing.

- Greenfield – a fresh start
- Brownfield – expansion of an existing project

Many large projects use Project Financing to secure the funding necessary to undertake the development work. Mobilizing capital is essential for very large projects, often called “Greenfield projects”, especially in the areas of infrastructure and energy development.

Special Purpose Vehicle

Generally, a *Special Purpose Vehicle* is created for each project, thereby shielding other assets owned by a project sponsor from the detrimental effects of a project failure. As a special purpose entity, the project company has no assets other than the project. Capital contribution commitments by the owners of the project company are sometimes necessary to ensure that the project is financially sound.

A special purpose vehicle (refer Exhibit 9.3) is responsible for delivering a bankable project during the financial phase, implementing the project, and there after operating it in a manner that is financially viable. It selects and appoints all project contractors, negotiates and executes the contracts, raising the financing, supervising the construction, and commissioning and operating the project.

A special purpose vehicle (SPV) is a corporate body (usually a limited company of some type, or sometimes, a limited partnership) created to fulfill narrow, specific or temporary objectives. These primarily isolate financial risk, usually bankruptcy but sometimes a specific taxation or regulatory risk. A special purpose entity may be owned by one or more entities and certain jurisdictions may require ownership by certain parties in specific percentages.

Often it is important that the SPV is not be owned by the entity on whose behalf the SPV is being set up (the sponsor). For example, in the context of a loan securitization, if the SPV securitization vehicle were owned or controlled by the bank whose loans were to be secured, the SPV would be consolidated with the rest of the bank's group for regulatory, accounting, and bankruptcy purposes, which would defeat the point of the securitization.

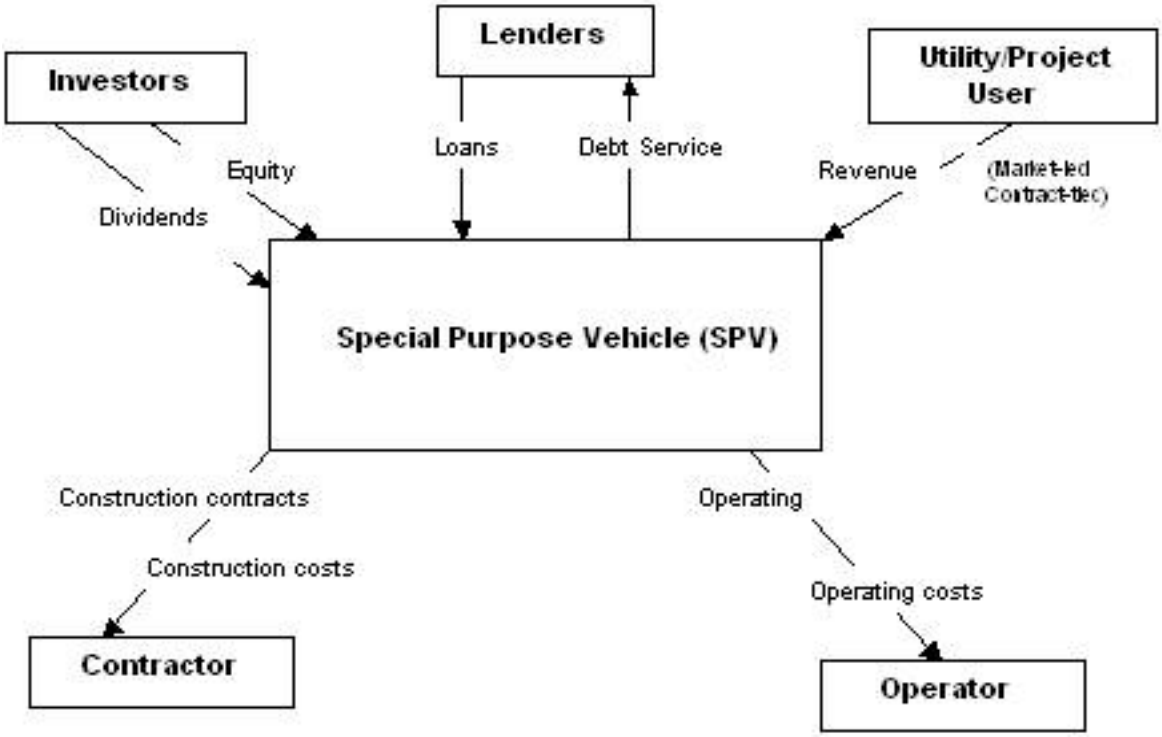

Exhibit:9.3 Special Purpose Vehicle

The loans are most commonly non-recourse loans, which are secured by the project itself and paid entirely from its cash flow. A riskier or more expensive project may require limited recourse financing, secured by a surety from sponsors. A complex project finance scheme may incorporate corporate finance, securitization, options, insurance provisions or other further measures to mitigate risk.

Project execution of any magnitude requires finance either through internal courses of the company or from external borrowings .Since the AGG project will comprise many countries, role of all governments, international banks and others will therefore be very important. Project Finance is a core service of developmental banks, and in them doing so, the companies developing the projects are often facilitated in transitional and emerging markets, where traditional bank finance would be practically impossible.

Financing Options

Recourse Financing

- If a loan is with recourse, the lender has ability to fall back to the guarantor of the loan if the borrower fails to pay.

- A creditworthy entity – such as a substantial Project Sponsor utility, a sovereign entity or a group of creditworthy end-users – would assume 100 percent liability for all debt service payments under the financing.

- Lenders would rely on the general credit of such entity for repayment of the loans and would price the loans in line with its general creditworthiness.

In the recourse financing, sponsor absorbs the full risks of:

- cost overruns,
- revenue shortfalls,
- changes in regulation,
- changes in circumstances, and
- All other "ups and downs" in the project lifespan.

Non-Recourse Financing

It is a loan where the lending bank is only entitled to repayment from the profits of the project that the loan is funding, not from other assets of the borrower. A "non-recourse" financing uses a special purpose vehicle – which by definition has "no credit history or creditworthiness". The project company undertakes the development, construction and operation of the project and serves as "borrower" under the debt financing. Lenders look principally to the revenues of the project as the source of funds to repay the debt, and the collateral securing the debt is limited to the project assets.

The benefits of a non recourse project financing include:

- Shields other Sponsor Assets from Default – reduces credit-rating pressure on the sponsor

- Risk Allocation – lenders absorb some of the risk of project failure

- Leverage – greater "debt to equity ratio" increases return on equity and decreases overall cost of capital

- Private sector participation – taps into experienced operators and managers

Who is involved in project finance?

A typical Greenfield Project Financing involves many different parties, including

1. Sponsors to 'champion' the construction of the asset
2. Construction parties to build the asset
3. Certifiers – to confirm it is built to specification
4. Lead Arrangers / Underwriters – to provide primary debt funding
5. Syndicated Lenders – to reduce the exposure of the lead banks
6. Insurers - to cover many of the insurable risks
7. Consultants – to provide expert opinions and services as needed
8. Off-take parties – to secure the sale of the end product or service

Advantages of using project financing

There are many benefits of funding a project with a project finance package, namely

- Comparatively low finance cost
- Does not impact the Balance Sheet of the sponsor ("Off Balance Sheet")
- Widely available around the world
- Most risks have well understood for which structural solutions are available
- Well organized and reputable providers

Disadvantages of using project financing

Project Finance is a great solution to many funding requirements, however it does have several drawbacks, including

- Only used for special projects rather than corporate finance
- Long transaction time
- High fixed transaction costs owing to number of parties
- Highly restrictive covenants and security constraints
- Robust financial analysis needs to be performed and validated
- Frequent monitoring of financial performance
- A payment default usually passes ownership / control to the lender(s)

9.3 SOURCE OF FUND

Who provides the Finance

When SPV is formed, it first issues equity shares to the promoters and also raises loans from banks financial institutions, and other sources. Financial institutions, banks, mutual funds, venture capital funds are important fund of finance for a nascent venture. A company may issue shares and debentures privately to promoters' relatives, friends, business partners, employees.

For energy projects, equity varies between 20 to 40 percent of the project cost. A higher equity ratio means a higher commitment by project sponsors and lower risk for lenders. Equity becomes more complex when a project is a joint venture between private and public corporations.

Equity share can come from:

1. Sponsors own capital and subordinated loans
2. Multilateral institutions.
3. International equity markets
4. Local capital markets
5. Certain investment funds
6. Governments, a host of official lending and aid agencies, or both.

Project Finance Debt is provided in many forms by hundreds of companies around the world. Debt financing requires a great deal of innovation. In fact, in present times, debt financing has become more scare then equity financing, at least for projects in development countries.

Debt makes up 60 to 40 percent of project cost, and it is traditionally sourced from

- Investment Banks
- Commercial Banks
- Specialized energy funds.
- International bond markets.
- Local banks and bond markets.

- Infrastructure Funds
- Government Export Credit Agencies
- Development Banks
- Government-guaranteed official loan from Multilateral Agencies and bilateral agencies, if the project is a joint venture between the private and public sectors.

Commercial banks are not able to meet the financing need of energy projects. These banks cannot lend large volumes of long term debt. These loans offer maturities of 5 to 10 years, whereas most energy projects need financing for much longer periods.

Until recently, the level of financing needed for energy projects in less-developed countries was only available from agencies like The World Bank's International Bank for Reconstruction and Development (IBRD) and the Inter-American Development Bank (IDB), which lend primarily to public-sector entities. Both the IBRD and the IDB give loans to member countries for productive purposes, including the development of gas production, transportation and distribution facilities. However, such loans must be made to a member government, or guaranteed by a member government.

IBRD and IDB have, however, recently developed a method of financing private projects by providing funds to private borrowers through a host-country's governmental lending agency. Over the last 30 years, project finance has been an important source of funding for public and private ventures around the world. Among the several international institutions, the international finance corporation was established to promote the private enterprise in developing countries, while the international development association was established to provide assistance to the world's poorest countries.

9.4 WORLD BANK

The World Bank Group has five agencies, they are :

(i) **International Bank for Reconstruction and Development (IBRD)**

- IBRD Provides loans and development assistance to middle-income countries
- Sells bonds in international capital markets to fund Loans
- IBRD Partial Risk Guarantee Program enhances government credit for private sector projects

a) Risk coverage of Government contractual obligations
b) Investment coverage of Debt only (principal and/or interest payments)
c) Terms can be of 15-20 years

(ii) **International Development Association (IDA)**

- Provides interest-free loans and grants to poorest countries
- Replenishment contributions from wealthier WBG member countries

(iii) **International Finance Corporation (IFC)**

- Encourages foreign and domestic private investment in LDCs
- Supports and promotes viable private sector ventures of benefit to host country's economy
- High HSE standards and project of strong demonstration effect
- Long-term financing, capital mobilization and advisory services

(iv) **Multilateral Investment Guarantee Agency Provides (MIGA)**

- Guarantees against non commercial risk losses
- Technical assistance to help promote investment opportunities
- Legal services to smooth possible impediments, and
- Encourages direct investments in-developing countries.

(v) **International center for the settlement of investment dispute (ICSID)**

- Provides facilities for settlement of investment disputes between foreign investors and their host countries

The World Bank has two broad categories of lending instruments: *investment loans*; and *development policy loans.*

A. Investment Loans

Investment loans have a long-term focus (15 to 20 years). They finance goods, works, and services in support of economic and social development projects in a broad range of sectors. Funds are disbursed against specific foreign or local expenditures related to the investment project, including pre-identified civil works, equipment, materials, technical and consulting services, and

incremental recurring costs. Investment loans are available to IBRD and IDA borrowers not in arrears with the World Bank. Over the past two decades, investment lending has accounted, on an average, for 75 to 80 percent of total bank lending. Currently, seven types of investment lending instruments are available.

B. Development Policy Loans

Development policy loans (DPLs) have a short-term focus (1 to 3 years). They provide quick-disbursing external financing to support policy and institutional reforms. DPLs ensure expedited assistance to countries with external financing needs to support structural reforms. They support the policy and institutional changes needed to create an environment conducive to sustained and equitable growth. Over the past two decades, development policy lending has accounted for, on average, for 20 to 25 percent of total bank lending

9.5 ASIAN DEVELOPMENT BANK (ADB)

The Asian development bank was formed in 1966. The ADB’s annual lending is about US$5 billion, of which 25 to 30 percent goes to the energy sector. ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries to substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, Asia remains home to two-thirds of the world’s poor. Nearly 1.7 billion people in the region live on US$2 or less a day. ADB is committed to reduce poverty through inclusive economic growth, environmentally sustainable growth, and regional integration. Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved loans worth US$10, US$673 million of grant projects, and technical assistance amounting to US$243 million.

Recognizing the important role of the private sector in generating jobs and growth, ADB places more emphasis on private sector operations. In 2007, India’s private sector operations totaled US$1.7 billion, significantly higher than recent levels. The private sector will continue to play an increasingly vital role in the region, and we expect private sector operations to become a leading part of ADB operations by 2020. As the Asia and Pacific region changes, so must ADB, to stay responsive and focused on achieving development results.

ADB raises funds through bond issues on the world's capital markets. It also utilizes its members' contributions and retained earnings from lending operations. These sources comprise ADB's ordinary capital resources and account for about 73 percent of lending to ADB's developing member countries.

Operations

ADB works in partnership with governments and public and private enterprises in its developing member countries on projects and programs that will contribute to economic and social development, based on the country's needs and priorities.

What ADB does for Allocation of Funds

Performance-Based Allocation

The PBA policy guides the allocation of ADF resources. Aid is most effective in accelerating poverty reduction in countries where policy and institutional performance are strong. The policy supports poverty reduction and sustainable development by allocating ADF resources based on country performance along with country needs.

ADB conducts Country Performance Assessments (CPAs) for all ADF-eligible developing member countries (DMC). Each country's performance is assessed based on

- Coherence of its macroeconomic and structural policies
- Quality of its governance and public sector management
- Degree to which its policies and institutions promote equity and inclusion
- Portfolio quality.

The policy also takes into consideration other factors, including country needs, absorptive capacity, and special circumstances.

The PBA exercise determines allocation shares for ADF borrowers using a formula that takes into account

- Country's performance
- Average need, as measured by Gross National Income (GNI) per capita
- Country size, as measured by population.

New Financing Instruments and Modes of ADB

Among the new financing instruments, the multi tranche financing facility (MFF) has emerged as the most-used and most sought-after product. As of 31 December 2007, 17 MFFs, with total available financing of US$9.4 billion, had been approved. Flexibility, lower costs, and a programmatic approach under a partnership agreement are all attractive features of the MFF. Several of these facilities have been performing well in terms of contract awards and disbursements. In view of the large volume of MFFs that have been approved

or are in the pipeline, the incorporation of this pilot instrument into ADB's operational toolkit is being proposed. With respect to the other instruments, as of the end of 2007, five non sovereign public sector financing facilities had been processed (all of them corporate loans to state owned enterprises), and one transaction was being considered under the refinancing facility. While ADB expects few proposals for refinancing transactions, the facility is still useful where public interest is involved or where demonstration projects are needed to establish a precedent in the market.

9.6 OTHER SOURCES

Islamic Financial Institutions

More than 200 Islamic financial institutions (IFIs) operate in 48 countries. Their combined assets exceed US$200 billion, with an annual growth rate between 12 percent and 15 percent. The regulatory regime governing IFIs varies significantly across countries. A number of international organizations have been established with the mandate to set standards that would strengthen and harmonize prudential regulations as they apply to IFIs. This funding will be available to Pakistan, Iran and other Islamic countries participating in the AGG project.

Governments

The government is a key project party. it provides concession to the SPV to set up the project and ensure that a proper legislative and regulatory framework exists that would allows the concerned SPV to compete on a level playing field along with existing, possibly government owned entities, in the same field.

Governments in some developing countries will need to play a more pro-active role in promoting investment in certain high-risk, large-scale upstream gas projects such as export-oriented gas pipelines and LNG facilities. This is best exemplified by the challenges the West Africa Gas Pipeline (WAGP) project has faced over the last decade. Governments can also help to lower the country's risk by intensifying dialogue and developing relevant inter-governmental agreements to overcome overarching legal jurisdictions to regulate activities and contracts. In addition, a clear and transparent legal and regulatory framework for both upstream and downstream activities has to be established that provides a more stable investment climate and confidence to investors.

Bilateral Institutions

Bilateral agencies are development institutes set up in industrialized countries to support the investment and technical assistance requirement of developing countries.

The functions of bilateral agencies fall in to two distinct categories:

- Provision of grants and highly concessional loans to developing countries based on economic, social, and political considerations.

- Provision of loans, guarantees and insurance that are designed to help exploration of goods and services from the donor country and to promote the involvement of donor-country companies in project developing countries.

9.7 OTHER ALTERNATIVES FOR FUNDS

Other alternatives for raising funds are as below:

Domestic Sources

1. Bank Credit
2. Negotiable certificate of deposit
3. Bonds/ non convertible debentures

International Sources

1. Dated straight debts
2. US private placement
3. Perpetual senior debt
4. Hybrid capital
5. FCNR(b) loan
6. External Commercial Borrowing (ECB)
7. Export Credit Agency (ECA)
8. Euro Bonds

a) BANK LOANS

Only large public sector banks can be considered for raising long term loans.

Features

1. Structured products to meet the cash flow requirement (senior and subordinate debt)

2. Average time frame for completion is around 90 days

3. Common terms for lenders

4. Door-to-door tenor of the loan can be for a period of 10-15 years.

5. Interest rate reset clauses built in the loan terms.

6. Term loans are available to the company both for expansion programs and green field projects. Term loans can be Medium Term to Long Term and the tenor could range from 5 to 14 years.

7. If the loans are long term in nature, it's advisable to have repayments spread over the period of the loan.

8. The current rate of interest for 5 to 10 years is in the range of 11 - 11.5% (floating) and 11.5% - 12.0% (fixed)

9. Time needed for getting the final disbursement is 10 to 12 weeks

Advantages

1. One time documentation
2. Committed bank lines ensure a liquidity back stop arrangement
3. Syndication leads to low interest rates
4. Flexibility in tenure
5. Tailor-made disbursement and repayment
6. No rating of projects needed
7. No currency risk involved.
8. Interest rate can be fixed at the time of draw down and will not be affected by the money market conditions over the period of the loan.

Disadvantages

1. High processing and commitment fees
2. Documentation is a lengthy process
3. Longer execution time exposes to interest rate risk
4. Tenure rarely exceeds 15 years
5. Fixed rate sanctions not forthcoming in present conditions
6. Long term loans may be expensive as compared to bonds on an annualized basis.
7. In the current scenario, high interest cost compared to foreign currency loans and bonds

b) CERTIFICATE OF DEPOSIT

Certificate of Deposit (CD) is a negotiable money market instrument and issued in dematerialized form or as a Usance Promissory Note, for funds deposited at a bank or other eligible financial institutions for a specified time period. Guidelines for issue of CDs are presently governed by various directives issued, as amended from time to time. The guidelines for issue of CDs incorporating all the amendments issued till date are given below for ready reference.

Advantages

1. Very wide investor base
2. Different structures can be offered under an NCD (Fixed/ Floating etc.)

Disadvantages

1. Should be rated and listed
2. Other costs to be factored in (for security creation) - trusteeship fees registration and stamp duty
3. Lengthy issuance process (first time) - preparation of information memorandum, appointment of trustees, opening of demat a/c etc

c) BOND / NON-CONVERTIBLE DEBENTURES

It is a certificate of agreement of loans which is given under the company's stamp and carries an undertaking that the debenture holder will get a fixed return (fixed on the basis of interest rates) and the principal amount whenever the debenture matures.

Bond

A bond is a debt security issued by certain institutions such as companies and governments. A bond entitles the holder to repayment of the principal sum, plus interest. Bonds are issued to investors in a marketplace when an institution wishes to borrow money. Bonds have a fixed lifetime, usually a number of years, with long-term bonds, lasting over 30 years, being less common. At the end of the bond's life the money should be repaid in full. Interest may be added to the end payment, or can be paid in regular installments (known as coupons) during the life of the bond. Bonds may be traded in the bond markets, and are widely used as relatively safe investments in comparison to equity.

Debentures

Debentures are a viable alternative to long term loans. Debentures are instruments for raising debt finance. Debenture holders are the creditors of a

company. The obligation of a company towards its debenture holders is similar to that of borrower who promises to pay interest and principal at specified times. Debentures often provide more flexibility than term loans as they offer greater choice with respect to maturity, interest rate, security repayment, and special features.

- When a debenture issue is sold to the investing public, a trustee is appointed through a trust deed. The trustee, usually a bank, financial institution or insurance company, is supposed to ensure that the borrowing firm fulfills its contractual agreements.

- Debenture issued in India are typically secured by mortgages/charges on the immovable properties of the company and a floating charge on its other assets

- Long term debentures typically have a maturity period of 15 to 20 years

- Debentures may carry a fixed rate of interest or floating rate of interest or zero rate of interest.

Issuing Bonds

Bonds are issued by public authorities, credit institutions, companies and supranational institutions in the primary markets. The most common process of issuing bonds is through underwriting. In underwriting, one or more security firms or banks form a syndicate, and buy an entire issue of bonds from an issuer and re-sells them to investors. Government bonds are typically auctioned.

International Bond Market

The international bond market is very big and has an estimated size of nearly US$47 trillion. The size of the US bond market is the largest in the world. The US bond market's outstanding debt is more than US$25 trillion. This rapid growth of the international bond market is due to the bonds that are issued by various multinational companies.

Features

1. These instruments are directly linked to movements in the G-Sec market.
2. They can be issued for different tenures with 5-10 years being the most tradable security.
3. Pricing depends upon market conditions, as corporates can raise money at a spread over G-sec rate for the corresponding period.
4. Time taken for disbursement could be 2-3 months.

Advantages

1. Easily saleable as the paper is a listed and tradable instrument.
2. Can be issued relatively quickly.
3. Faster route as decision is taken by treasury departments
4. Less stringent documentation
5. Multiple investor segments
6. Availability of underwritten commitments
7. Quick turnaround time
8. Flexibility with respect to tenure: 1 to 20 years
9. Structured repayments by use of call/put options and amortizations
10. Low issue expenses
11. Can be unsecured – covenants
12. Based on scenario, and could be cheaper than term loans
13. For rated entity, a much shorter process
14. Can be structured into deep discount / zero coupon bonds

Disadvantages

1. As there is market to market requirement, the market can dry up in a rising rate scenario.
2. Bonds market is not very deep and limits amount mobilization
3. Funds to be drawn upfront leading to higher costs
4. Issue needs to be rated by Credit Rating Agencies
5. Prepayment is not available, except in bonds with a call option, which would lead to additional cost
6. Bonds have fixed coupon rate and offer no advantage in case interest rates decline
7. Coupon rate is highly dependent on the prevailing liquidity conditions in the market
8. Coupon rate for JV would be usually higher by around 75bps to 100bps.

d) FCNR LOANS

FCNR (B) loans are a low cost, short-term funding source available to Indian corporates. Banks have been permitted to provide foreign currency denominated loans to their customers from the resources mobilized under the FCNR (B) scheme. RBI granted this permission to help banks to deploy their FCNR funds in a more commercially viable manner and make available a better avenue of credit at cheaper interest rates to resident borrowers. Such facilities may be available in other countries too.

Features

- FCNR Funds are generally short term in nature and are renewable every six months to one year.

- Company can avail FCNR funds for 3 years during project implementation which could be automatically converted into rupee loan on maturity.

Advantages

1. By taking a mixture of FCNR loan & rupee loan, interest cost could be lowered.
2. The loan can be raised at a cheaper cost as the interest is linked to LIBOR./ EURIBOR
3. No special permission is required from the regulatory authorities for availing FCNR (B) loans and the existing rupee credit limits can be converted into a foreign currency loan.
4. The interest rates and the tenure of the loans are left free to be decided by negotiation between banks and borrowers.
5. FCNR (B) loans are relatively free of the procedural hassles involved in raising ECBs (such as getting permission from RBI, periodic reporting etc)

Disadvantages

1. FCNR (B) funds are available for short tenures and are subject to availability
2. Carries the exchange fluctuation risk

e) EXTERNAL COMMERCIAL BORROWINGS

External Commercial Borrowings (ECBs) include bank loans, suppliers' and buyers' credits, fixed and floating rate bonds (without convertibility) and borrowings from private sector windows of multilateral financial institutions such as International Finance Corporation.

Features

1. External Commercial Borrowing is available to the Company both for expansion and green field projects. Tenure could range from 5 to 10 years.
2. The present rate of interest for 5 years is in the range of L+65 - 80 bps for borrowing on company’s balance sheet and about L+150 bps on SPV’s balance sheet for longer tenure.
3. Time needed for final disbursement ranges from 8 to 10 weeks.

Advantages

1. In the current scenario, it is more cost effective vis-à-vis local currency funding, even on fully hedged basis
2. Moves dependency from domestic lenders.
3. To the extent of import component of Capex, ECBs provide natural hedge against local currency – US$ fluctuation
4. Funds may be available at attractive spreads over 6-m LIBOR
5. Limited prepayment and refinancing options in the normal course

Disadvantages

1. Exposed to currency and interest rate risk in case no hedge is taken.
2. Ever changing ECB guidelines
3. Limited structuring possibility
4. Complex documentation procedure
5. Upfront fee is relatively high
6. Spreads have moved northwards due to global liquidity concerns

f) EXPORT CREDIT AGENCY

Export credit agencies and investment insurance agencies, commonly known as ECAs, are institutions which act as finance companies for private domestic entities who conduct business abroad. ECAs provide government-backed loans, guarantees and insurance (Trade Credit Insurance) covering both commercial and political risk.

Features

1. Export credit is usually provided by either commercial bank loan that is insured or guaranteed by ECAs, or direct loan from ECAs.
2. This is available, if the company looks at importing large value of capital equipment(s) from a particular company, the ECA of the exporting country, in order to provide impetus to the local export, would offer to provide a guarantee for financing the exports.
3. For providing the cover, the ECA charges a premium which is payable upfront and it varies from country to country, sector to sector and deal to deal.

Advantages

1. ECA gives long term guarantees ranging from 5-10 years.
2. Larger funds can be financed.
3. Cost effective if it is a project finance transaction.
4. ECAs offer longer tenure funds than ECBs
5. ECAs may also offer attractive fixed rate options

6. Tailor-made financing with drawings in accordance to the terms and conditions of the commercial contract
7. As an alternative to floating rates based on 6 month Libor, fixed rates are available and all-in costs (rate + insurance premium + banking margin and fees) can be anticipated.
8. For classical Buyer's Credit, standard documentation is submitted to international law and practices generating reduced legal and other costs
9. Borrower capacity on the international financial market spared for the portion guaranteed by the ECAs
10. Possibility to lock the interest rate (CIRR) up to 4 months before signing Commercial Contract.
11. Possibility to prepay voluntarily on an interest payment date without any cost.

Disadvantages

1. Can only finance the direct import.
2. Time taken by ECA agency is about 12-16 weeks.
3. End to end credit processing time is higher
4. Limited structuring possibilities
5. Requires dedicated equipment as security vis-à-vis general capex for other means of financing
6. Unsecured, may be a problem
7. Maximum 85 percent of the value of import can be financed
8. ECA funding involves an elaborate appraisal process, and is therefore more time consuming than ECBs

g) EURO BONDS

A Eurobond is an international bond that is denominated in a currency not native to the country where it is issued. It can be categorized according to the currency in which it is issued. London is one of the centers of the Eurobond market, but Eurobonds may be traded throughout the world.

Features

1. Eurobond is issued by an international syndicate and categorized according to the currency in which it is denominated. A Eurodollar bond that is denominated in US dollars and is issued in Japan by an Australian company would be an example of a Eurobond. The Australian company in this example could issue the Eurodollar bond in any country other than the US.
2. Eurobonds are attractive financing tools as they give issuers the flexibility to choose the country in which to offer their bond according to the country's regulatory constraints. They may also denominate their

Eurobond in their preferred currency. Eurobonds are attractive to investors as they have small par values and high liquidity.
3. Eurobond is a tradable instrument. They are listed on several stock exchanges with London and Luxemburg as most frequently used exchanges.
4. Can be issued in USD, EURO, and JPY etc.

h) DATED STRAIGHT DEBTS

It's a Debt that is evidenced by a written unconditional promise to pay a fixed amount on demand, or on a specific date.

Features

1. Fixed rate senior unsecured debt, repayable after a fixed term, with or without call feature
2. Predominantly global institutional investors under reg s/rule 144a, full range of maturities from 5-30 years available

Advantages

1. Low cost of funding
2. Flexibility to tap markets more frequently
3. Deep pools of capital available

i) PERPETUAL SENIOR DEBTS

These are the senior, unsecured debt obligations of the issuer ranking *pari passu* with all existing and future unsecured and unsubordinated debts of the issuers. They have perpetual maturity.

Features

1. Fixed rate senior unsecured perpetual debt callable at every coupon payment date after 5 years
2. Primarily retail investors looking for investment avenues providing higher return
3. Target investors are primarily retail investors looking for investment avenues providing higher return; the Asian retail demand has been the key success factor for most of the perpetual debts marketed in the region (over US$ 3.5 billion in the last 12-15 months)

Advantages

1. Cost-effective, long-term financing – takes advantage of low yield environment
2. Provides greater flexibility in the form of call protection
3. Broadens investor base by targeting retail investors
4. Tax shield on coupon payments unlike dividends payable on equity/preference shares

j) HYBRID CAPITAL

A hybrid security is a deeply subordinated security that has characteristics of both debt and equity instruments. Traditionally, hybrid capital products have been issued by banks and financial institutions. But, recently, owing to its unique positioning as a fixed-income product with certain equity like structural features, several corporates have been issuing the product to manage their balance sheets more effectively.

Advantages

1. Low cost, non-dilutive equity credit alternative
2. Greater EPS and ROE accretion (than debt and equity issuance to achieve same equity credit)
3. Potential tax shield on ongoing payments
4. Tax deductibility of coupons and no dilution of voting rights; the post-tax cost of hybrid capital is expected to be significantly cheaper than the blended cost of equity and senior debt issuance to maintain equity credit/balance sheet strength.
5. Ability to leverage more than permissible levels without impacting the credit rating
6. Safety in the form of increased cash flow flexibility in the event of financial stress
7. Greater financing flexibility in the form of call protection

k) US PRIVATE PLACEMENT (USPP)

These are the unregistered debt securities that are exempt from public registration requirements; the market offers a term funding alternative to borrowers who do not wish to (or cannot) access the public bond markets

Features

1. Fixed or floating rate notes
2. Exempt from registration pursuant to section 4(2) of the 1933 securities act, as clarified by Regulation D
3. Not underwritten; sold on an agented best-efforts basis

4. Primarily sold to accredited investors

Advantages

1. Lower transaction time and expenses
2. Delayed settlement available (i.e. price in June but do not take money until December)
3. Amortizing structures available
4. Low transaction costs
5. Ability to do small deals
6. No "small company" penalty
7. Market ascribes value to covenants, collateral (if any) and other complex structural enhancements which may result in better spread execution
8. Ability to raise foreign currency from U.S. investors (Merrill swaps the investor) and preserve swap lines
9. Diversify sources of funding
10. Local market is saturated
11. Confidentiality
12. Long maturities (10-15 years, and sometimes longer) typically available
13. No need for US GAAP reconciliation
14. Flexible timing

Steps for Getting Funds from Bond / Debentures

1. Structure the amount and period of the debenture
2. Preparation of Information Memorandum (IM)
3. Rating
4. Appointment of trustee & registrar
5. Obtaining ISIN number from NSDL/CDSL
6. Filing of IM with stock exchange
7. Allotment of bonds
8. Listing of bonds

Steps for Getting Funds from Rupee/Dollar Loan

1. Carry out the internal assessment of the project based on the Feasibility Report and Information Memorandum provided by the company.
2. Preparation of acceptable fund raising plan within regulatory framework.
3. Structuring of the loan to reduce credit risk.
4. Preparing the information package including financial appraisal and modeling.
5. Identifying the lenders in India or abroad and circulation of the Information dossier.

6. Making presentation to the lenders with the management.
7. Facilitating management discussion and due diligence.
8. Providing the draft term sheet to the company and negotiating the same with the prospective lenders on behalf of the company.
9. Finalize the terms, conditions & documentation for loan including liaisoning with legal entities.
10. Obtaining final sanction, facilitating security creation and disbursement

Steps for Getting Funds from ECA

1. Decide the country of import of the equipment
2. Decide and negotiate price with vendor
3. Approach ECA provider of the concerned company
4. Due diligence and appraisal by ECA
5. Sanction and disbursement
6. RBI approval required if the ECA is to be secured by Bank Guarantee

Steps for Getting Funds from USPP

1. Prepare Private Placement Memorandum and Investor Presentation
2. Appoint investors' counsel to draft Note Purchase Agreement based on Model Form
3. Finalize all marketing materials and Note Purchase Agreement
4. Contact key investors
5. Distribute offering material
6. Road show and a broad investor conference call
7. Investor Q&A
8. Continue marketing process and investor Q&A
9. Receive bids from investors
10. Evaluate any oversubscriptions vis-à-vis bid pricing and terms
11. "Circle" notes and accept commitments with major terms and rate
12. Price transaction; coupon is set and investors are committed
13. On-site Investor due diligence meeting
14. Documentation reviewed
15. Documentation finalized
16. Investors receive final credit approval
17. Closing and funding occurs
18. Annual conference call/meeting following results is appreciated but not required

9.8 RISKS INVOLVED IN PROJECT FINANCING

Project Financing is all about identifying risks, allocating them appropriately and ensuring that the responsible parties have adequate incentives to manage their

risks efficiently. With billions of dollars often on the line, multiple parties involved, including sponsors, contractors, suppliers, host governments and global financiers, it is no surprise that from the inception of the idea to financial close, a project's finance deal can take years to negotiate. Some of the risks normally considered are

- Currency fluctuation risk
- Energy price risk
- Off-take volume, price
- Political environment, war, local hostility, currency inconvertibility
- Construction time, costs and specification
- Operational cost, reliability
- Labor quality, availability
- Socio-environmental responsibilities
- Legal, documentary and tax risk
- Modeling and analytical risk
- Macroeconomic risks
- Supply reliability, quality, cost

Currency Fluctuation Risk

Deregulation, emerging markets and globalization have increased the impact of currency fluctuations on the bottom line, and likewise, the need to manage currency exposures actively. However, many companies are discovering that their existing processes, systems and reporting are not particularly effective in identifying their most critical currency exposure. The SPV will endeavor to reduce currency risk by offsetting operating income and expenses in foreign currencies. Any surplus is hedged by means of currency contracts (forward transactions, options) in accordance with the group's financial risk policy. Net investment in foreign subsidiaries is likewise subject to risks rising from currency fluctuation, although differences in inflation rates tend to cancel out these changes over the long term. Currency risk, resulting from the generation or purchase of energy, is contractually passed on to the counterparties, wherever possible.

Energy Price Risk

Price risk in the energy business mainly arises from price volatility, changing market prices or changing correlations between markets and products. Derivative financial instruments are used in accordance with the risk policy as a means of hedging physical underlying transactions.

Interest Rate Risk

As the SPV Group is exposed to the risk of fluctuating interest rates on capital markets, it will use interest rate swaps as a hedging mechanism. In this

mechanism the differences arising from these transactions are continuously reported in the consolidated income statement under finance income and expense. The interest rate exposure is minimized via long-term financing as well as by staggering the maturity periods of financial liabilities.

Credit Risk

The SPV credit risk management centers will constantly monitor outstanding due from counterparties and carry out creditworthiness analyses of new contracting parties. In its energy business, the SPV Group only assumes liabilities with counterparties that fulfill the criteria laid out in its energy risk policy. The danger of concentration risk for the SPV Group is minimized by the number of customers, their geographical distribution and consolidation of positions.

Off Take Volume

Increased levels of financial commitment for all SPV users seeking to obtain access to natural gas will exit flat capacity, with existing holders of capacity being granted prevailing rights. The flat capacity arrangements also provide for medium and short term auctions of SPV exit flat capacity, in order to ration capacity where availability is insufficient. The introduction of new network interruption arrangements with interruption being managed by SPV through long term contracting and the sale of a day ahead interruptible product.

Project Risks

Identification, analysis, mitigation, and allocation of project risks are essential to structuring a project finance package. These risks are related to events that could endanger the project during development, construction and operation.

At the stage of project development, the main risk is rejection of the financiers by the government. Reasons for project rejections include commercial weakness and failure to obtain licenses, permission, and clearance. At the development stage, risks are high but involve relatively small losses, which are limited to money and time spent on feasibility studies and released preparatory work. These risks are borne primarily by project sponsors.

During construction, the main risk is failure to complete the project with acceptable performance levels and within an acceptable time frame and budget. This risk falls mainly on the project company and its sponsors. They in turn hedge their risk by purchasing various forms of insurance and obtaining guarantees from contractors regarding costs, completion schedule, and operational performance of the project. The construction risk is high and potentially involves significant losses. This is a most important risk from the point of view of financiers. Should a project fail during construction, the lender’s

loan security that is the assets of the project company, would be of little value. Thus, financiers would not want to take any of the construction risk and normally ask for recourse to the sponsors' other resources until the project is completed and tested.

After the plant has been constructed, the main concern is that it may not operate on a continuing basis within acceptable economic and technical parameters. Such operational risks are numerous but are usually of more modest magnitude. They are related to technical failures, availability of fuels, market demand and prices, fiscal issues (taxes or subsidies), foreign exchange rates and convertibility, environmental problems, and so on. These operating risks are borne by the project company and its limited or non-recourse lenders. However, a project company can hedge against the risks through contractual and guarantee arrangements that in effect transfer some of them to other parties. The following are examples of such hedging:

1. The project company receives guarantees from equipment suppliers for equipment performance.
2. The project company obtains a supply guarantee from a fuel source, at defined prices that might be passed through or, in case of margin shortfall, with netback pricing down to a certain floor.
3. The project company receives a take or pay contract from a company that buys project output at defined prices, sometimes including a pass through of certain operating costs (for example, fuel costs).
4. The project company receives guarantees against political risk from multilateral or bilateral agencies, channels foreign revenues through an offshore disbursement account, or both.
5. The project company receives limited support from shareholders for defined margin shortfalls, through methods such as cash injection, subordinated loans, or dividend claw backs.

The hedging arrangements affect not only the liability of the project company but also the willingness of private investors and financiers to support the project. This is the primary reason why project financing has turned into a complex discipline financial engineering, involving a combination of instruments for guarantees, borrowing, and mobilization of equity.

Preparing the Security Package

The security package comprises key agreements, contracts and government undertakings aimed at reducing lenders' and investors' risks by establishing legally binding obligations and procedures. Some documents included in the package represent standard paperwork prepared for a project, regardless of who the lenders and investors are. Examples are: land use and operating license, construction permit, import license, corporate documents, trust

agreements, concession agreement, production sharing agreement, and off-take agreement.

The security package also includes various guarantees that need to be designed to mitigate project risks. These vary depending on whether the major portion of debt is financed by commercial or non-commercial lenders.

From the lender's point of view, three questions need fully satisfactory answers.

1. Can the project be constructed and commissioned within the planned schedule and budget?
2. Can the project generate the projected net revenue?
3. Can the net revenue be allocated and paid back to the lenders and investors according to the project agreement?

Associated with these questions, lenders want to know who would be responsible for damages in the event the project fails in any of these areas. The security package should provide the lenders with answers to these questions as well as the means to perfect and enforce their security interest.

Preparation of the security package significantly affects, and is affected by the ownership and financing structures. In particular, participation by the government in ownership, or participation by multilaterals in financing, would reduce concerns about political risk and sometimes increase concerns about commercial risks. The point is that the security package will continue to be modified until the ownership and financing structures are finalized. Preparing an appropriate security package requires a systematic procedure involving the following:

1. Identifying sources of applicable guarantees
2. Evaluating options for mitigating political risks
3. Investigating options for mitigating commercial risks

9.9 MAIN FINANCING CHALLENGES

- Regulatory Uncertainty – unfortunate history of regulatory rule changes regarding approved designs, inspections, failures to issue operating permits, etc.
- Cost Overruns – need for contingent support to pay for cost overruns and delays
- High Capital Costs – means longer period for a pipe line transportation facility to provide a return on its original construction capital
- Supply Chain Concerns – need to recreate a population of engineers, managers and technicians and redevelop suppliers of pipeline components

- Public Acceptance and Support – need for a widespread support by the government and public at large
- Public Safety – designs and operations need to adequately protect public safety – particularly against terrorist attacks
- Education of Financing Community – bankers (and independent investors) need to be educated / convinced that risks are manageable.

9.10 CONCLUDING REMARKS ON GAS PIPELINE PROJECTS

- Co-operation between Governments, NOCs, IOCs and private investors
- Successful gas projects require initial, strong Government involvement and support
- Smaller projects are easier to bring to fruition and mobilize less scarce resources
- Pilot projects have a strong demonstration effect and generally lead to larger projects
- Major gas projects and investments, such as trans-border pipelines, require innovative and specifically tailored institutional and policy frameworks
- Major risks are better mitigated through **public-private sector partnerships**
- IFI involvement is necessary at the early phases of project concept stage
- Good governance and transparency is the key to successful projects
- Private partnership would be available when they get a fair access to down stream markets and market based pricing policies

9.11 PROJECT FINANCING STRUCTURE OF AGG

In the cross-country gas grid project the main regulatory body is **Asian Energy Charter (AEC).** A sub entity in each country would take care of all local and regional management and financial operation of its own country operations.

The financial structure is such that equity and debt would be raised by individual subsidiary of that country. The proposed financing structure of AGG is shown in Exhibit 9.4

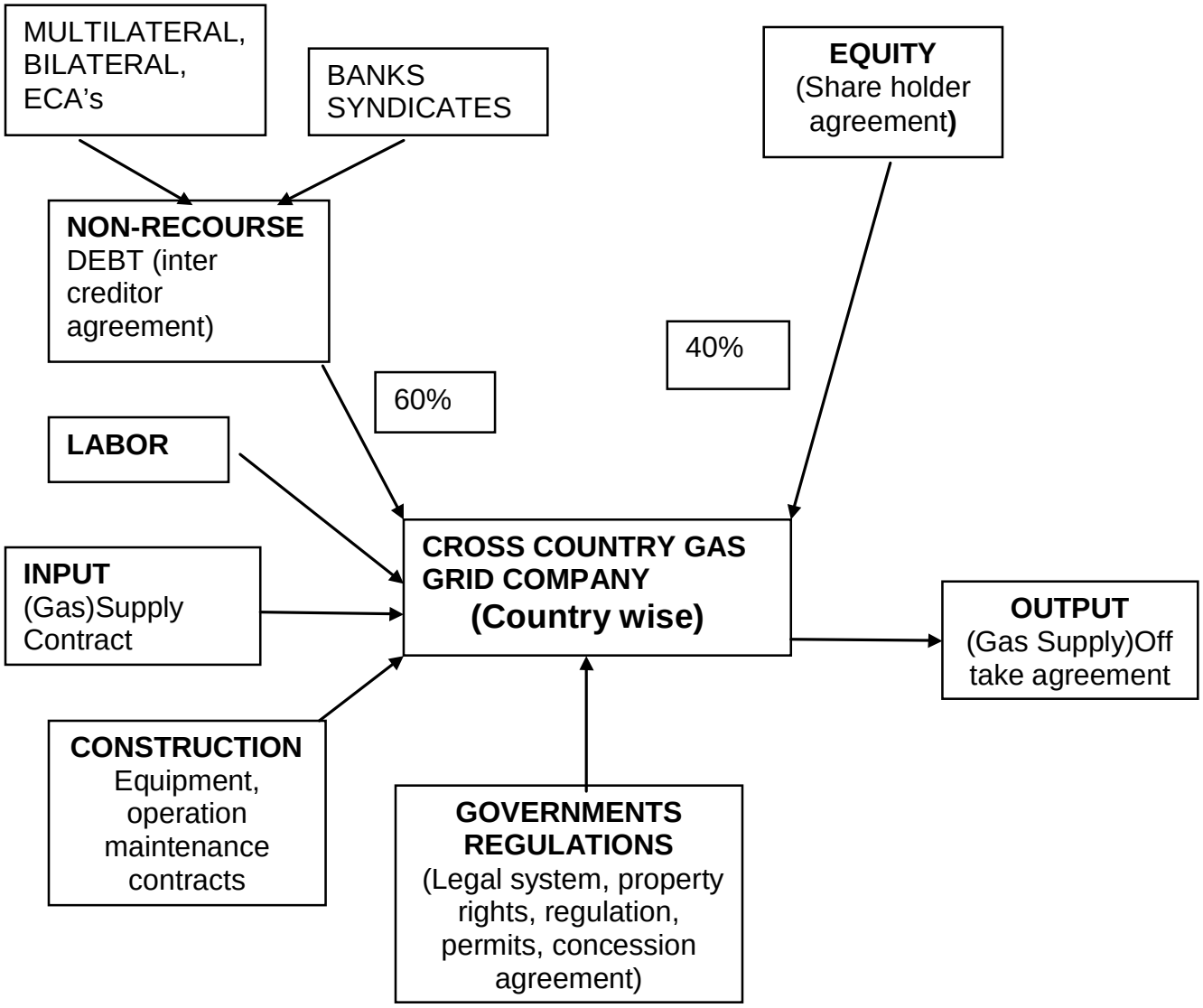

Exhibit: 9.4 Proposed Financing Structure of AGG

Approximately 40 percent of the financing can be done through equity provided by shareholders in proportion to their stakes in the project, and 60 percent can be from external financing by banks and other sources.

After carrying out of the analysis of various AGG limbs as discussed in the earlier Chapter on Techno-commercial analysis, the estimated project cost of each limb was derived. The recommended financing structure of various limbs is based on this estimated project cost.

9.11.1 FINANCING STRUCTURE FOR IPI PIPELINE

Suppose AGG IPI (India) company would be formed by Indian firms GAIL, ONGC, IOCL, BPCL, HPCL, RIL, and other Laying Companies, then the

proposed share holding pattern of the company would be in the following manner.

Total length = 1075 km,
Total cost =US$ 2135 million
Equity (40%) = US $ 854 million,
Debt (60%) = US $ 1281 million

***1 Share = US$1**

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Gail (India)Ltd	85,400,000	10 (US$ 85.4 million)
2	BPCL	51,240,000	6 (US$ 51.24 million)
3	IOCL	51,240,000	6 (US$ 51.24 million)
4	HPCL	51,240,000	6 (US$ 51.24 million)
5	RIL	85,400,000	10 (US$ 85.4 million)
6	ONGC	51,240,000	6 (US$ 51.24 million)
7	LAYING COMPANIES	51,240,000	6 (US$ 51.24 million)
	Sub total		**50%(US$ 427 million)**
B	**Non-promoters holding**		
1	Institutional investors	42,700,000	5% (US$ 42.7 million)
2	Mutual funds	42,700,000	5% (US$ 42.7 million)
3	Banks	42,700,000	5% (US$ 42.7 million)
4	Insurance companies	42,700,000	5% (US$ 42.7 million)
5	FII'S	42,700,000	5% (US$ 42.7 million)
	Sub total		**25%(US$213.5 million)**
C	**Others**		
1	Indian public	128,100,000	15%(US$ 128.1 million)
2	Private corporate body	51,240,000	6%(US$ 51.24 million)
3	NRI'S	17,080,000	2%(US$ 17.08 million)
4	Any other(trusts)	17,080,000	2%(US$ 17.08 million)
	Sub total		**25%(US$213.5 million)**
	GRAND TOTAL	**854,000,000**	**100%(US$ 854 million)**

Table 9.1: Equity Pattern of AGG-IPI (India) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**	US$ 384.3 million	30%
2	**World bank**		
2.a	IBRD	US$ 89.67 million	7%
2.b	IDA	US$ 51.24 million	4%
2.c	IFC	US$ 128.10 million	10%
2.d	MIGA	US$ 89.67 million	7%
2.e	ICSID	US$ 76.86 million	6%
B.	**International bond**	US$ 76.86 million	6%
C.	**Domestic fund**		
	Local commercial banks		
a.	ICICI	US$ 51.24 million	4%
b.	HDFC India Ltd.	US$ 51.24 million	4%
c.	ABN AMRO Bank (India) Limited	US$ 51.24 million	4%
D.	**Domestic Bond**	US$ 76.86 million	6%
E.	**Government guaranteed official loans from multilateral institutes**	US$ 76.86 million	6%
F.	**Specialized energy funds from government**	US$ 76.86 million	6%
	TOTAL	**US$ 1281 million**	100%

Table 9.2: Debt Patterns of AGG-IPI (India) Ltd.

Total length in Pakistan = 750 km
Total cost =US$ 3145 million
Equity (40%) = US$ 1258 million, Debt (60%) =US$ 1887 million.

***1 Share = US$1**

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Attock Petroleum	125,800,000	10%(US$ 125.8 million)
2	Sui Southern Gas Company	125,800,000	10%(US$ 125.8 million)
3	Sui Northern Gas Pipelines	125,800,000	10%(US$ 125.8 million)
4	Pakistan State Oil	125,800,000	10%(US$ 125.8 million)
5	Oil and Gas Development Company	125,800,000	10%(US$ 125.8 million)
	Sub total		**50%(US$ 629 million)**
B	**Non-promoters holding**		
1	Institutional investors	62,900,000	5.0%(US$ 62.9 million)
2	Mutual funds	62,900,000	5.0%(US$ 62.9 million)
3	Banks	62,900,000	5.0%(US$ 62.9 million)
4	Insurance companies	62,900,000	5.0%(US$ 62.9 million)
5	FII'S	62,900,000	5.0%(US$ 62.9 million)
	Sub total		**25%(US$ 314.5 million)**
C	**Others**		
1	Pakistani public	188,700,000	15%(US$ 188.7 million)
2	Private corporate body	75,480,000	6.0%(US$ 75.48 million)
3	NRI'S	25,160,000	2.0%(US$ 25.16 million)
4	Any other(trusts)	25,160,000	2.0%(US$ 25.16 million)
	Sub total		**25%(US$ 314.5 million)**

Table 9.3: Equity Pattern of AGG-IPI (Pakistan) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**	US$ 503.07 million	26.66%
2	**World bank**		
2.a	IBRD	US$ 104.72 million	5.55%
2.b	IDA	US$ 83.97 million	4.45%
2.c	IFC	US$ 104.72 million	5.55%
2.d	MIGA	US$ 63.02 million	3.34%
2.e	ICSID	US$ 63.02 million	3.34%
B.	**International bond**	US$ 209.83 million	11.12%
C.	**Domestic fund**		
	Local commercial banks		
a.	Muslim Commercial Bank Ltd.	US$ 167.56 million	8.88%
b.	Industrial Development Bank of Pakistan	US$ 125.86 million	6.67%
c.	Abn Amro Bank (Pakistan) Limited (Merged with Prime Bank Ltd. in October 2007)	US$ 125.86 million	6.67%
D.	**Domestic Bond**	US$ 104.72 million	5.55%
E.	**National Investment Trust Ltd., Karachi**	US$ 104.72 million	5.55%
F.	**Specialized energy funds from government**	US$ 125.86 million	6.67%
	GRAND TOTAL	**US$ 1887 million**	**100%**

Table 9.4: Debt Patterns AGG-IPI (Pakistan) Ltd.

Total length in Iran = 800 km
Total cost =US$ 3508 million
Equity (40%) = US$ 1403 million,
Debt (60%) =US$ 2105 million

*** 1 Share = US$1**

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	**National Iranian Oil Company** (NIOC)	140,300,000	10%(US$ 140.3 million)
2	**National Iranian Gas Company (NIGC)**	140,300,000	10%(US$ 140.3 million)
3	**National Iranian Gas Export Co.**	140,300,000	10%(US$ 140.3 million)
4	**National Iranian Central Oil Co.**	140,300,000	10%(US$ 140.3 million)
5	**National Iranian Oil Refining and Distribution Company (NIORDC)**	140,300,000	10%(US$ 140.3 million)
	Sub total		**50%(US$ 701.5 million)**
B	**Non-promoters holding**		
1	Institutional investors	70,150,000	5.0%(US$ 70.15 million)
2	Mutual funds	70,150,000	5.0%(US$ 70.15 million)
3	Banks	70,150,000	5.0%(US$ 70.15 million)
4	Insurance companies	70,150,000	5.0%(US$ 70.15 million)
5	FII'S	70,150,000	5.0%(US$ 70.15 million)
	Sub total		**25%(US$ 350.75 million)**
C	**Others**		
1	Iranian public	210,450,,000	15%(US$ 210.45 million)
2	Private corporate body	84,180,000	6.0%(US$ 84.18 million)
3	NRI'S	28,060,000	2.0%(US$ 28.06 million)
4	Any other(trusts)	28,060,000	2.0%(US$ 28.06 million)
	Sub total		**25%(US$ 350.75 million)**
	GRAND TOTAL	**1,403,000,000**	**100%(US$ 1403 million)**

Table 9.5: Equity Pattern of AGG-IPI (Iran) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Islamic Development Bank**	US$ 568.35 million	27%
2	**Islamic financial institutions**	US$ 117.88 million	5.60%
2.a	Bank Melli Iran	US$ 94.72million	4.50%
2.b	Bank Saderat Iran	US$ 117.88 million	5.60%
2.c	Bank Tejrat	US$ 75.78million	3.60%
2.d	Export Development Bank of Iran	US$ 75.78million	3.60%
B.	**International bond**	US$ 231.55 million	11%
C.	**Domestic fund**		
	Local commercial banks		
a.	Central bank of Islamic republic of Iran.	US$ 187.34 million	8.90%
b.	Bank Sanat Va Maadan (Bank of Industry and Mines), Tehran	US$ 141 million	6.70%
c.	Bank Saderat Iran, Tehran	US$ 117.88 million	5.60%
D.	**Domestic Bond**	US$ 117.88million	5.60%
E.	**Government guaranteed official loans from multilateral institutes**	US$ 141 million	6.70%
F.	**Specialized energy funds from government**	US$ 117.88million	5.60%
	GRAND TOTAL	**US$ 2105 million**	**100%**

Table 9.6: Debt Patterns AGG-IPI (Iran) Ltd.

9.11.2 FINANCING STRUCTURE FOR TAPI PIPELINE

Suppose AGG TAPI (India) company would be formed by Indian firms GAIL, ONGC, IOCL, BPCL, HPCL, RIL, and Laying Companies and proposed share holding pattern of the company would be in the following manner.

Total length = 550 km,
Total cost =US$ 1553 million
Equity (40%) = US $ 621.2 million
Debt (60%) = US $ 931.8 million

*** 1 Share = US$ 1**

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Gail (India)Ltd	62,120,000	10% (US$ 62.12 million)
2	BPCL	37,270,000	6% (US$ 37.27 million)
3	IOCL	37,270,000	6% (US$ 37.27 million)
4	HPCL	37,270,000	6% (US$ 37.27 million)
5	RIL	62,120,000	10% (US$ 62.12 million)
6	ONGC	37,270,000	6%(US$ 37.27 million)
7	LAYING COMPANIES	37,270,000	6% (US$ 37.27 million)
	Sub total		**50%**(US$ 310.6 million)
B	**Non-promoters holding**		
1	Institutional investors	31,060,000	5% (US$ 31.06 million)
2	Mutual funds	31,060,000	5% (US$ 31.06 million)
3	Banks	31,060,000	5% (US$ 31.06 million)
4	Insurance companies	31,060,000	5% (US$ 31.06 million)
5	FII'S	31,060,000	5% (US$ 31.06 million)
	Sub total		**25%**(US$ 155.3 million)
C	**Others**		
1	Indian public	93,180,000	15% (US$ 93.18 million)
2	Private corporate body	37,270,000	6% (US$ 37.27 million)
3	NRI'S	12,420,000	2% (US$ 12.42 million)
4	Any other(trusts)	12,420,000	2% (US$ 12.42 million)
	Sub total		**25%**(US$ 155.3 million)
	GRAND TOTAL	**621,200,000**	**100%** (US$ 621.2 million)

Table 9.7: Equity Pattern of AGG-TAPI (India) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**	US$ 279.54 million	30%
2	**World bank**		
2.a	IBRD	US$ 65.22 million	7%
2.b	IDA	US$ 37.27 million	4%
2.c	IFC	US$ 93.18 million	10%
2.d	MIGA	US$ 65.22 million	7%
2.e	ICSID	US$ 55.90 million	6%
B.	**International bond**	US$ 55.90 million	6%
C.	**Domestic fund**		
	Local commercial banks		
a.	ICICI	US$ 37.27 million	4%
b.	HDFC India Ltd.	US$ 37.27 million	4%
c.	ABN AMRO Bank (India) Limited	US$ 37.27 million	4%
D.	**Domestic Bond**	US$ 55.90 million	6%
E.	**Government guaranteed official loans from multilateral institutes**	US$ 55.90 million	6%
F.	**Specialized energy funds from government**	US$ 55.90 million	6%
	TOTAL	**US$ 931.8 million**	100%

Table 9.8: Debt Patterns of AGG-TAPI (India) Ltd.

Total length in Pakistan = 590 km
Total cost =US$ 2285 million
Equity (40%) = US$ 914 million
Debt (60%) =US$ 1371 million.

*** 1 Share = US$1**

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Attock Petroleum	91,400,000	10.0%(US$ 91.4 million)
2	Sui Southern Gas Company	91,400,000	10.0%(US$ 91.4 million)
3	Sui Northern Gas Pipelines	91,400,000	10.0%(US$ 91.4 million)
4	Pakistan State Oil	91,400,000	10.0%(US$ 91.4 million)
5	Oil and Gas Development Company	91,400,000	10.0%(US$ 91.4 million)
	Sub total		**50%** US$ 457 million)
B	**Non-promoters holding**		
1	Institutional investors	45,700,000	5.0%(US$ 45.7 million)
2	Mutual funds	45,700,000	5.0%(US$ 45.7 million)
3	Banks	45,700,000	5.0%(US$ 45.7 million)
4	Insurance companies	45,700,000	5.0%(US$ 45.7 million)
5	FII'S	45,700,000	5.0%(US$ 45.7 million)
	Sub total		**25%**(US$228.5million)
C	**Others**		
1	Pakistani public	137,100,000	(US$ 137.10 million)
2	Private corporate body	45,700,000	(US$ 45.7 million)
3	NRI'S	22,850,000	(US$ 22.85 million)
4	Any other(trusts)	22,850,000	(US$ 22.85 million)
	Sub total		**25%** (US$228.5 million)
	GRAND TOTAL	**914,000,000**	**100%** (US$914 million)

Table 9.9: Equity Pattern of AGG-TAPI (Pakistan) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**	US$ 365.50 million	26.66%
2	**World bank**		
2.a	IBRD	US$ 76.09 million	5.55%
2.b	IDA	US$ 61 million	4.45%
2.c	IFC	US$ 76.09 million	5.55%
2.d	MIGA	US$ 45.79 million	3.34%
2.e	ICSID	US$ 45.79 million	3.34%
B.	**International bond**	US$ 152.45 million	11.12%
C.	**Domestic fund**		
	Local commercial banks		
a.	Muslim Commercial Bank Ltd.	US$ 121.74 million	8.88%
b.	INDUSTRIAL DEVELOPMENT BANK OF PAKISTAN	US$ 91.44 million	6.67%
c.	ABN AMRO BANK (PAKISTAN) LIMITED (MERGED WITH PRIME BANK LTD. IN OCTOBER 2007)	US$ 91.44 million	6.67%
D.	**Domestic Bond**	US$ 76.09 million	5.55%
E.	**National Investment Trust Ltd., Karachi**	US$ 76.09 million	5.55%
F.	**Specialized energy funds from government**	US$ 91.44 million	6.67%
	GRAND TOTAL	**US$ 1371 million**	100%

Table 9.10: Debt Patterns AGG-TAPI (Pakistan) Ltd.

Suppose AGG-TAPI (Turkmenistan) company would be formed by Turkmenistan firms by the following manner.

Total length = 100 km,
Total cost =US$ 370 million
Equity (40%) = US $ 148 million
Debt (60%) = US $ 222 million

*** 1 Share = US$1**

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Central Asia Gas Pipeline, Ltd. (CentGas)	**14,800,000**	**10%(US$14.8 million)**
2	TengizChevrOil joint venture	**14,800,000**	**10%(US$14.8 million)**
3	Agip KCO consortium	**14,800,000**	**10%(US$14.8 million)**
4	Caspian pipeline consortium	**14,800,000**	**10%(US$14.8 million)**
5	Itera oil and gas company	**14,800,000**	**10%(US$14.8 million)**
	Sub total		**50%(US$74 million)**
B	**Non-promoters holding**		
1	Institutional investors	7,400,000	**5.0%(US$7.4 million)**
2	Mutual funds	7,400,000	**5.0%(US$7.4 million)**
3	Banks	7,400,000	**5.0%(US$7.4 million)**
4	Insurance companies	7,400,000	**5.0%(US$7.4 million)**
5	FII'S	7,400,000	**5.0%(US$7.4 million)**
	Sub total		**25%(US$37 million)**
C	**Others**		
1	Turkmenistan public	22,200,000	**15%(US$22.2 million)**
2	Private corporate body	8,880,000	**6.0%(US$8.88 million)**
3	NRI'S	2,960,000	**2.0%(US$2.96 million)**
4	Any other(trusts)	2,960,000	**2.0%(US$2.96 million)**
	Sub total		**25%(US$37 million)**
	GRAND TOTAL	**148,000,000**	**100%%(US$148 million)**

Table 9.11: Equity Pattern of AGG-TAPI (Turkmenistan) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**	US$ 66.6 million	25%
2	**Islamic financial institutions**		
2.a	Al Rajahi Bank	US$ 15.54 million	7%
2.b	ABC Islamic Bank	US$ 15.54 million	7%
2.c	National Investment Trust	US$ 15.54 million	7%
2.d	Gulf Finance House BSC	US$ 13.32 million	6%
2.e	Investment Dar	US$ 13.32 million	6%
B.	**International bond**	US$ 13.32 million	6%
C.	**Domestic fund**		
	Local commercial banks		
a.	Turkmen Turkish Commercial Bank's (TTCB)	US$ 13.32 million	6%
b.	Central Bank of Turkmenistan	US$ 13.32 million	6%
c.	State Central Bank of Turkmenistan	US$ 13.32 million	6%
D.	**Domestic Bond**	US$ 13.32 million	6%
E.	**Government guaranteed official loans from multilateral institutes**	US$ 13.32 million	6%
F.	**Specialized energy funds from government**	US$ 13.32 million	6%
	GRAND TOTAL	**US$ 222 million**	100%

Table 9.12: Debt Patterns AGG-TAPI (Turkmenistan) Ltd.

Suppose AGG-TAPI (Afghanistan) company would be formed by Afghanistan firms by the following manner

Total length = 710 km,
Total cost =US$ 2650 million
Equity (40%) = US $ 1060 million
Debt (60%) = US $ 1590 million

*** 1 Share = US$1**

	Category	**No of shares held**	**% of shareholding**
A	**Promoter's holding**		
1	Unocal led Centgas consortium	**106,000,000**	**10%(US$106 million)**
2	Central Asia Gas Pipeline, Ltd. (CentGas)	**106,000,000**	**10%(US$106 million)**
3	Gasprom	**106,000,000**	**10%(US$106 million)**
4	Agfa-Gevaert group	**106,000,000**	**10%(US$106 million)**
5	Abu Dhabi NIOC	**106,000,000**	**10%(US$106 million)**
	Sub total		**50% (US$530 million)**
B	**Non-promoters holding**		
1	Institutional investors	53,000,000	**5.0%(US$53 million)**
2	Mutual funds	53,000,000	**5.0%(US$53 million)**
3	Banks	53,000,000	**5.0%(US$53 million)**
4	Insurance companies	53,000,000	**5.0%(US$53 million)**
5	FII'S	53,000,000	**5.0%(US$53 million)**
	Sub total		**25%(US$265 million)**
C	**Others**		
1	Afghanistan public	15,000,000	**15%(US$159 million)**
2	Private corporate body	63,600,000	**6.0%(US$63.6 million)**
3	NRI'S	21,200,000	**2.0%(US$21.2 million)**
4	Any other(trusts)	21,200,000	**2.0%(US$21.2 million)**
	Sub total	**10,600,000,000**	**25% (US$265 million)**
	GRAND TOTAL		**100%**

Table 9.13: Equity Pattern of AGG-TAPI (Afghanistan) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**	US$477 million	30%
2	**Islamic financial institutions**		
2.a	Al Rajahi Bank	US$127.2 million	8%
2.b	ABC Islamic Bank	US$127.2 million	8%
2.c	National Investment Trust	US$127.2 million	8%
2.d	Gulf Finance House BSC	US$95.4 million	6%
2.e	Investment Dar	US$95.4 million	6%
B.	**International bond**	US$95.4 million	6%
C.	**Domestic fund**		
	Local commercial banks		
a.	Afghanistan International Bank	US$79.5 million	5%
b.	BRAC Afghanistan Bank (BAB)	US$79.5 million	5%
c.	Industrial Development Bank of Afghanistan, Kabul	US$95.4 million	6%
D.	**Domestic Bond**	US$63.6 million	4%
E.	**Government guaranteed official loans from multilateral institutes**	US$63.6 million	4%
F.	**Specialized energy funds from government**	US$63.6 million	4%
	GRAND TOTAL	**US$ 1590 million**	100%

Table 9.14: Debt Patterns AGG-TAPI (Afghanistan) Ltd.

9.11.3 FINANCING STRUCTURE FOR KaUzChi PIPELINE

UNG is the state-owned holding company formed in 1998 when the Government of Uzbekistan merged nine companies in the oil and gas sector.

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Uzbekneftegaz (UNG)	**-------**	**22%**
2	Baker Hughes	**------**	**7%**
3	Trinity Energy	**------**	**7%**
4	Bukhara refinery		**7%**
5	Ferghana refinery		**7%**
	Sub total		**50%**
B	**Non-promoters holding**		
1	Institutional investors		
2	Mutual funds		
3	Banks		
4	Insurance companies		
5	FII'S		
	Sub total		**25%**
C	**Others**		
1	Uzbekistan public		
2	Private corporate body		
3	NRI'S		
4	Any other(trusts)		
	Sub total		**25%**
	GRAND TOTAL		**100%**

Table 9.15: Equity Pattern of AGG-KaUzChi (Uzbekistan) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**		30%
2	**World bank**		35%
2.a	IBRD		
2.b	IDA		
2.c	IFC		
2.d	MIGA		
2.e	ICSID		
B.	**International monetary fund**		5%
C.	**International bond**		6%
D.	**Domestic fund**		6%
	Local commercial banks		
a.	National Bank of Uzbekistan		
b.	Ansher Capital Uzbekistan		
c.	Capital Bank Joint –Stock Commercial Bank		
E.	**Domestic Bond**		6%
F.	Islamic Finance and Investment Limited		6%
G.	Specialized energy funds from government		6%

Table 9.16: Debt Patterns AGG-KaUzChi (Uzbekistan) Ltd.

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	KazMunaiGas Exploration Production (AO)	**-------**	
2	KazMunayGas	**------**	
3	KazTransOil	**------**	
4	Petro Kazakhstan		
5	Tengizchevroil		
	Sub total		**50%**
B	**Non-promoters holding**		
1	Institutional investors		
2	Mutual funds		
3	Banks		
4	Insurance companies		
5	FII'S		
	Sub total		**25%**
C	**Others**		
1	Kazakhstan public		
2	Private corporate body		
3	NRI'S		
4	Any other(trusts)		
	Sub total		**25%**
	GRAND TOTAL		**100%**

Table 9.17: Equity Pattern of AGG-KaUzChi (Kazakhstan) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**		30%
2	**World bank**		35%
2.a	IBRD		
2.b	IDA		
2.c	IFC		
2.d	MIGA		
2.e	ICSID		
B.	**International monetary fund**		5%
C.	**International bond**		6%
D.	**Domestic fund**		6%
	Local commercial banks		
a.	Kazakhstan International Bank (KIB)		
b.	Kazkommerts bank		
c.	Almaty Merchant Bank		
E.	**Domestic Bond**		6%
F.	Islamic Finance and Investment Limited		6%
G.	Specialized energy funds from government		6%

Table 9.18: Debt Patterns AGG-KaUzChi (Kazakhstan) Ltd.

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	China National Offshore Oil Corporation(CNOOC)	**-------**	
2	China National Petroleum Corp (CNPC)	**------**	
3	The Hong Kong and China Gas Company Limited		
4	China Petrochemical Corporation (Sinopec),		
	Sub total		**50%**
B	**Non-promoters holding**		
1	Institutional investors		
2	Mutual funds		
3	Banks		
4	Insurance companies		
5	FII'S		
	Sub total		**25%**
C	**Others**		
1	China public		
2	Private corporate body		
3	NRI'S		
4	Any other(trusts)		
	Sub total		**25%**
	GRAND TOTAL		**100%**

Table 9.19: Equity Pattern of AGG-KaUzChi (China) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**		30%
2	**World bank**		35%
2.a	IBRD		
2.b	IDA		
2.c	IFC		
2.d	MIGA		
2.e	ICSID		
B.	**International monetary fund**		5%
C.	**International bond**		6%
D.	**Domestic fund**		6%
	Local commercial banks		
a.	International Commercial Bank of China		
b.	Bank of China Limited (BOC)		
c.	Farmers Bank of China		
E.	**Domestic Bond**		6%
F.	Islamic Finance and Investment Limited		6%
G.	Specialized energy funds from government		6%

Table 9.20: Debt Patterns AGG-KaUzChi (China) Ltd.

9.11.4 FINANCING STRUCTURE FOR IBMC PIPELINE

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	**Petrobangla** successor of Bangladesh Mineral Oil and Gas Corporation (BOGMC)		
2	Bangladesh Petroleum Exploration Company Limited (BAPEX)		
3	Bangladesh Gas Fields Company Limited (BGFCL)		
4	Gas Transmission Company Limited (GTCL)		
5	Titas Gas Transmission and Distribution Company Limited (TGTDCL)		
	Sub total		**50%**
B	**Non-promoters holding**		
1	Institutional investors		
2	Mutual funds		
3	Banks		
4	Insurance companies		
5	FII'S		
	Sub total		**25%**
C	**Others**		
1	Bangladesh public		
2	Private corporate body		
3	NRI'S		
4	Any other(trusts)		
	Sub total		**25%**
	GRAND TOTAL	**20,000,000**	**100%**

Table 9.21: Equity Pattern of AGG-IBMC (Bangladesh) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**		35%
2	**World bank**		35%
2.a	IBRD		
2.b	IDA		
2.c	IFC		
2.d	MIGA		
2.e	ICSID		
B.	**International bond**		6%
C.	**Domestic fund**		6%
	Local commercial banks		
a.	Islami Bank Bangladesh Ltd		
b.	AB Bank Limited		
c.	Dutch Bangla Bank Limited		
D.	**Domestic Bond**		6%
E.	Islamic Finance and Investment Limited		6%
F.	**Specialized energy funds from government**		6%

Table 9.22: Debt Patterns AGG-IBMC (Bangladesh) Ltd.

	Category	No of shares held	% of shareholding
A	**Promoter's holding**		
1	Myanmar Oil and Gas Enterprise (MOGE),	**-------**	
2	Myanmar Petrochemical Enterprise (MPE)	**------**	
3	Myanmar Petroleum Products Enterprise (MPPE)	**------**	
4	Myanmar Petroleum Resources Ltd,		
5	Focus Energy Ltd,		
	Sub total		**50%**
B	**Non-promoters holding**		
1	Institutional investors		
2	Mutual funds		
3	Banks		
4	Insurance companies		
5	FII'S		
	Sub total		**25%**
C	**Others**		
1	Myanmar public		
2	Private corporate body		
3	NRI'S		
4	Any other(trusts)		
	Sub total		**25%**
	GRAND TOTAL		**100%**

Table 9.23: Equity Pattern of AGG-IBMC (Myanmar) Ltd.

	Category	Total fund	Percent of total fund
A	**Foreign fund**		
1	**Asian development bank**		35%
2	**World bank**		35%
2.a	IBRD		
2.b	IDA		
2.c	IFC		
2.d	MIGA		
2.e	ICSID		
B.	**International monetary fund**		6%
C.	**International bond**		6%
D.	**Domestic fund**		6%
	Local commercial banks		
a.	Myanmar Economic Bank		
b.	Credit Agricole Indosuez		
c.	Asia Wealth Bank (AWB)		
E.	**Domestic Bond**		6%
F.	Specialized energy funds from government		6%

Table 9.24: Debt Pattern of AGG-IBMC (Myanmar) Ltd.

9.12 CONCLUSION

Sustained governmental support is a fundamental requirement for successful financing of the next generation of pipeline facilities. This support will include several distinct elements:

- Regulatory certainty
- Political support of all countries
- Inter-Governmental support
- Economic stability of countries
- Financial support to the projects themselves

AGG project in different countries are likely to be financed:

1. Through a “hybrid” structure that uses existing financing techniques.

2. Where government support comes from both the host and the exporting countries

3. Where credible, practical solutions have been adopted to address the key industry problems.

4. Major gas projects and investments, such as trans-border pipelines, require innovative and specifically tailored institutional and Policy frameworks.

5. Major risks are better mitigated through:

    - Public private sector partnership
    - IFIs' involvement is necessary at the earliest phases of Project Concept Stage.
    - Good governance and transparency key to successful projects.

Suggestions on Financing Strategy for Asian Energy Charter (AEC):

- Financing strategy should be developed to synchronize with expected policy and regulatory changes in the Petroleum and Natural Gas sector of different countries

- Participation of governments of participating countries in the form of equity

- Financing strategy should be flexible to take advantage of market conditions, opportunities and minimize cost of funds

- Target a mix of currency and Forex funding for longer tenure

- Need to diversify funding through a variety of markets/ products

- Given large size of funding over a 5 year period, it would be best to spread the borrowing over a time period rather than funding at one go, thereby exhausting system-wide limits

- To reduce the cost of funds, swing in option to FCNR (B) could be structured
- Considering present turmoil in global markets, national bank guidelines and increased spreads for country paper, it is advisable not to launch ECB/ECA syndication at this stage.

- Present prudent option is to tie up major funding requirement for next 2 to 5 years.