

Power Sector Financial Vulnerability Assessment

**Impact of the Credit Crisis
on Investments in the Power Sector:
International Players and the MENA region**

Supply-Demand: Moderate Impact of Crisis, Confirmed Need for Capacity

- The crisis is having a real but moderate impact on the local economies of the four targeted countries (Morocco, Tunisia, Egypt, Jordan)
- Power demand growth will be lower than expected in 2009 and 2010, but will remain significantly positive, typically around 4-5% per year. Medium to long term trends remain virtually unchanged, typically in the 6-7% per year range
- Investment in power generation has been relatively limited in the past decade, due to acceptable supply-demand balance
- However, in recent years, after a decade of economic growth and generally higher than expected power demand growth, the supply-demand situation became tighter: new capacity is needed in most countries of the region, sometimes urgently (e.g. in Morocco)
- National investment plans did not significantly change: delays are sometimes expected, but no project should be cancelled
- With the exception of Jordan, electricity tariffs do not fully cover costs, which puts financial constraints on the public utilities (operations and investment capacity)
- Morocco and Jordan have been relying on private generation for a long time, and will continue to do so. Tunisia's only large size IPP project was developed over a decade ago, but several new IPPs are now being considered. In Egypt, there is also a new momentum to try and favor private investment in power generation:
 - This general trend towards favoring IPPs applies to conventional fossil fuel fired plants as well as to renewable energy based units, including the CSP plants to be developed under the MENA solar scale-up initiative (with CTF concessional finance and assistance from various donors)
 - In 2009, one CCGT IPP project reached financial close in Jordan (373 MW)
 - Several other IPP projects are at various stage of the prequalification/selection process, and should reach financial close in 2010 or 2011, despite delays in some cases. This includes at least a CCGT project in Tunisia (400 MW), and several wind projects in Morocco (300 MW), Egypt (250 MW) and Jordan (up to 200 MW). The first CSP projects in the MENA solar scale-up initiative should also enter the preparation phase

Financing: More Difficult, Still Possible

- All-in financial costs have increased, but remain manageable
 - This is mainly due to higher upfront fees, extended guarantee packages and shorter debt tenors
 - Nominal interest rates suffer from much higher margins, but underlying rates are currently low
 - This will increase the financial burden on public utilities, state budgets and consumers budgets. However, EPC costs stopped rising and are likely to start decreasing, which should prevent total investment costs from increasing. In addition, fuel costs, although still high, went down from 2008 peak
- Fund availability is reduced in the international banking market: major project finance banks, although more selective, are still active, but many “second tier” banks left the market, making syndication extremely difficult
- However, ECAs remain present in every market. Margins didn’t increase as much as for commercial loans, and long maturities remain available
- Similarly IFIs, although sometimes reaching envelope limits, are still present and willing to participate in new projects. Local banks, which generally are quite liquid, should also contribute in making up for reduced international funds
- On the equity side, international developers tend to be more cautious and selective, and to ask governments to better cover risks, but most of them are still present, and active in bidding exercises

International Commercial Banks: Harsher Financial Conditions

- Interest margins have been multiplied by at least 2 or 3 since the beginning of the crisis, as a combination of (i) increased liquidity cost for the banks, and (ii) reassessed risk premiums
- The crisis appears to have peaked during the first quarter of 2009. Margins have stabilized since July, but are not decreasing yet, in spite of the slowly decreasing liquidity cost. One explanation is that competition is much reduced in the project finance market, since many banks have left and are not likely to come back any time soon
- Project finance tenors had decreased to typically below 10 years. They have now started to increase again. One reason for this is that a number of new loans are structured as “mini perms”, which allows for extended tenors
- Mini perms were popular in power project finance in the late 1990s, especially for merchant plants in the US and the UK. A typical “soft” mini perm has a nominal maturity of around 7-8 years, a significant “balloon” at maturity, and a “cash sweep” mechanism post maturity, leading to real maturities of around 15 years and durations of around 12 years. “Hard” mini perms recently appeared; they have a strict maturity of 7-8 years, with full refinancing risk (no repayment mechanism post maturity); in spite of this risk, as shorter term loans, they are easier for many banks to take in their books
- More generally, all deal parameters have tightened: reduced leverage (up to 25-30% equity instead of 20% for a typical power project), higher upfront fees, tighter coverage ratios, stricter covenants, request for reinforced support from host governments, etc. For emerging MENA countries, risk mitigation coverage from development financial institutions, export credits or the insurance market is a must

International Commercial Banks:

Fewer Players

- Major project finance banks are still fully active in all markets, although are becoming more selective on sponsors (relationship banking is key) and projects characteristics (including timing and “seriousness” of projects: less than ever, banks don’t want to waste resources working on projects that will end up being cancelled, or will take years to reach technical and financial closing)
- However, loan syndication remains a very serious issue regarding the international banking community (“the banking universe has shrunk, especially in emerging markets”, according to a major project finance bank): it is now very difficult to “convince” second tier banks to join a deal (even with open “upward flex” in syndication). This makes transactions even more time consuming and more costly for borrowers (the “last dollar” is the most expensive to get)
- Morocco and Tunisia are considered good risks by major banks active in the region (especially French banks), and their ratings are good, compared with most emerging economies (Tunisia: BBB/Baa2*, Morocco: BB+/Ba1*, stable outlook for both countries). Egypt presents good growth opportunity, while Jordan is a smaller market (Egypt: BB+/Ba1*, Jordan: BB/Ba2*). However, many second tier banks are currently unwilling to take any significant emerging country risk without extensive security package/credit enhancement
- Club deals are now the norm, which makes major banks even more selective, as they need to keep higher final takes than normally desired
- The renewable energy segment remains active in developed countries (loan syndication is still possible). However, international banks are more reluctant to entering this market in emerging countries: the regulatory risk, which is seen as more critical in renewable than in conventional energy as public support is necessary for most renewable energies to be financially competitive, is often considered too high in the current global economic context
- As already mentioned, the project finance market seems to have stabilized, and might be heading for improvement. Margins have reached a plateau, tenors seem to start increasing again (12-15 years is expected to be possible soon in most markets), syndication is back for corporate loans

*: Standard & Poor’s/Moody’s

Export Credit Agencies: Critical for Many Projects

- ECAs remain present in every market. OECD governments are actually pushing them to support local exporters. They allow for loans at relatively unchanged margins, with long maturities which are now very difficult to find in the commercial market: up to 12 years post completion for fossil fuel-fired power plants, up to 18 years for renewable energy and nuclear (as per the “Arrangement on Officially Supported Export Credits”, developed within the OECD framework)
- ECAs are actually critical in many deals, and some sponsors are seeking new partners based on which ECA these partners can bring on board a project
- The Commercial Interest Reference Rate (CIRR) is the basis used to price ECA covered loans. It is currently very low:

CIRR (01/15/10-02/14/10) Source: OECD	<5 years	5-8.5 years	>8.5 years
USD	2.38%	3.34%	4.07%
EUR	2.79%	3.53%	4.08%

- Banks increased their margins on ECA covered loans, but they are still much lower than for pure commercial deals: in addition to the fact that the risk premium they charge is low, competition is intense between banks to provide such loans. Combined with the low CIRRs, the limited margins give low nominal rates for ECA covered credits
- One issue in the past few months was related to the liquidity crisis, that lead to problems regarding the underlying funding for commercial banks (especially for the longest maturities). The situation has now improved
- Traditionally, ECAs prefer financing on a corporate basis rather than non recourse, but hybrid project finance/export credit structures are becoming more common. ECA financing, as it offers long maturities at a good price, is sometimes seen as a substitute for the bond tranche in some projects

Developers:

More cautious, Still Present

- International developers tend to be more cautious and selective, but very few bids were dropped. The four selected countries are considered acceptable or even good risks, and industry players are willing to study projects in those countries, on a case by case basis. In effect, recent preselecting exercises in Morocco (Safi), Egypt (250 MW wind IPP), Jordan (200 MW wind IPP) and Tunisia (Bizerte, Elmed) confirmed that most developers are still present and interested, whether they're from Asia, Europe, the Gulf countries or the US
- In the current economic situation, a more conservative risk allocation among project counterparts will help increase a project's bankability under a tight credit market. In particular, developers want to pass more risk to governments, at the possible expense of profitability (lower return on equity [ROE] can be acceptable with a reinforced security package)
- More generally, projects with lower demand risk, a certainty on fuel supply and raw materials, a pass-through cost structure to the tariffs, a well-defined force majeure and termination mechanism, a strong or enhanced off-taker credit standing, among others, will be most palatable to commercial lenders. A project with more demand uncertainty - such as those with partial off-take agreement or export uncertainty - will be less competitive in accessing project finance. Willing lenders, if any, will put a risk premium on such a project, which translates into higher electricity tariffs (as financial costs are passed through on tariffs)
- Technology risk is generally not considered a significant issue for fossil fuel fired projects. It is more of a concern for renewable technologies, especially for the future CSP projects. Reputational risk is also an increasing concern, which might especially impact the development of coal fired plants (Morocco, possibly Tunisia)
- While availability of finance can be an issue for some developers, it is not an issue of concern for the major ones. In addition, solid sponsors are willing to take loans at prevailing rates: nominal rates are not so high (as the underlying rates are low), and borrowers expect to refinance when market conditions improve

International Financial Institutions: Funds and Guarantees

- More than ever, key IFIs are willing to support sound public sector projects in the MENA countries, sometimes substituting for other sources of finance (budget contribution, commercial banks, etc.). The table below shows, through selected examples, that the major IFIs remained active in recent months in the MENA energy sector
- Some IFIs, in some countries, might soon be constrained by exposure limits. This shouldn't lead to them withdrawing from project, but it could make timing critical in some cases
- The dramatically decreasing appetite of commercial banks for long term financing in non investment grade or low investment grade countries makes IFIs especially valuable for private projects:
 - They can provide additional funding, if necessary
 - The current syndication situation makes IFI coverage schemes (such as the World Bank PRG or MIGA products) especially welcome, as it can help for more banks to join deals
- IFI funds for private projects are more expensive than before the crisis, but remain much less costly than funds from commercial banks: typically 200-250bp for 10-15 years vs. 100-125bp before the crisis for IFIs, but over 400bp for commercial banks (provided they accept to provide funds beyond 7-10 years)

Energy Sector Deals in 2008-2009 (source: web sites)

Institution	Country	Date	Project	Client	Size	US \$	T&C	Remarks
AFESD	Egypt	Jan. 2008	Expansion of Abu Qir Power		30MKD/ 30MKD	(\$ 105M/ \$ 105M)	21yrs, 3%	1,300MW (sum of 1, 2 loan), 5yrs grace period Date of loan agreement
	Jordan	Mar. 2008	Al-Samra Power		30MKD	(\$ 105M)		Al-Samra Phase III
	Tunisia	Oct. 2009	Ghanouch Power Plant	STEG	67.5MKD	(\$ 236M)	17yrs, 3%	total project cost 730MKD, 400MW CCGT
KFAED	Egypt	Jul. 2008	Expansion of gas distribution network	GOE	20MKD	(\$ 70M)	21yrs, 3%	total project cost 55.7MKD, 4yrs grace period
		Jan. 2008	Expansion of Abu Qir Power	West Delta	30MKD/ 30MKD	(\$ 105M/ \$ 105M)	21yrs, 3%	1,300MW (sum of 1, 2 loan), 5yrs grace period
		Mar. 2009						
	Jordan	Mar. 2009	Exapansion of Amman East Substation	NEPCO	8.5MKD	(\$ 31M)	24yrs, 3%	total project cost MJD, 4yrs grace period
IsDB	Jordan	Oct. 2009	Electricity Substation of Al Qatrana			\$ 80M		373MW (Al Qatrana Power)
	Morroco	Arp. 2009	Installment Sale for Kenitra Power			\$ 196.7M		IDB's Board Approval
	Tunisia	Nov. 2008		STEG		\$ 196M		
AfDB	Egypt	Mar. 2009	Ain Sokhna Power	GOE/EEHC		\$ 450M		1,300MW steam turbine
	Morroco	Dec. 2009	T/L Network	ONE	€ 110M			
	Tunisia	Oct. 2009	Electricity Distribution Network	STEG	€ 47.57M		25yrs, variable	total project cost 112million DT, 5yrs grace period
EIB	Egypt	Sep. 2009	Gabal el Zait wind farm		€ 50M		200 MW onshore wind farm	
WB/IFC	Egypt	Jan. 2009	Ain Sokhna Power Project	GoE		\$ 600M	21yrs	6yrs grace period, approved by BOD

Other Funding Sources

- Infrastructure funds and other international funds are not seen as a key element for power projects loans: they mostly provide equity, which is not what is mostly missing. Funds are borrowers to commercial banks, not lenders to projects. In general, the power sector generates lower nominal return on investment than other infrastructure sectors. So a blended portfolio of power and non-power is common. As for MENA region, the 4 countries of the present study are considered riskier than the GCC, but provide risk-and-return tradeoff
- Conversely, Gulf countries development funds are considered attractive sources of soft money. They have been active in all 4 countries and facilitated recent projects to close
- Islamic finance is not seen as a major source of funding, at least outside of the Gulf region. However, it can play a role, as long as maturities are not too long (<15 years) and amounts are not too large (<USD 200m). The latest IPP to close in Jordan in October 2009 included Islamic tranche from the Islamic Development Bank
- Arab commercial banks, especially those from the Gulf countries, show interest for power projects in the MENA region. Some have participated in IPP financing prior to the crisis. They require risk coverage in order to lend, and are substantially affected by the prevailing liquidity constraint
- Chinese banks might also develop their business, to accompany Chinese EPC contractors and equipment manufacturers

Positive Consequences of the Crisis?

- A positive consequence of the crisis, which has yet to fully materialize, is that investment and EPC costs could decrease significantly
- At the moment, although costs have only marginally decreased (and mainly for the larger developers), EPC contractors and equipments manufacturers have already become more flexible than before the crisis, in terms of postponement, adjustment of specifications, etc.
- In the medium term, a 20% cost reduction from the peak could be possible, thanks to weaker demand and reduced raw material prices (not to the mention increasing appetite of Chinese equipment manufacturers for overseas markets)
- Reduced fuel costs are another positive consequence of the crisis, not so much for projects sponsors (who usually enjoy power purchase agreement [PPAs] with pass through of fuel cost) than for utilities buying electricity from independent power producers (IPPs), for governments who need to support state owned utilities, and for the general public
- However, on a long term basis, fuel costs remain high, given the global economic downturn, and should follow an upward trend: countries and utilities should not count on low fossil fuel costs to ease financial constraints

