Public-Private Partnerships in Sub-Saharan Africa

Case Studies for Policymakers, 2017

An Extract of Songas, Tanzania

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Introduction

The Songo Songo integrated gas-to-electricity project has a long and complex history that began in 1974 with the discovery of an offshore reservoir of natural gas by the Italian oil company AGIP, near Songo Songo island, some 25 km from the Tanzanian mainland. AGIP did not develop the field, as it was considered uneconomic, and handed it back to the Government of Tanzania (GoT). Plans to use the gas for fertiliser production also came to nothing.

In the 1990s Tanzania was primarily dependent on hydropower for its electricity generation. Drought problems combined with poor maintenance and bad management led to an unreliable supply with significant load shedding at regular intervals. Studies suggested that the least-cost (after hydropower) and fastest solution to this supply problem would be to use Songo Songo gas for power generation.

Procurement

In 1993 GoT decided to call for tenders to develop the Songo Songo project as an integrated gas-to-electricity project using a structure similar to one that had previously been developed in the Netherlands for North Sea gas, consisting of

- the rehabilitation of existing gas wells in the Songo Songo field
- gas processing facilities on Songo Songo Island
- a 70 m cubic feet per day gas pipeline running 25 km to the mainland, and thereafter 207 km to Dar es Salaam
- taking over the existing Ubungo 115 MW fuel oil-fired power station and converting this to gas firing
- expanding capacity at Ubungo by 65 MW

The gas in the allocated portion of the field was to be used primarily for Ubungo (and an adjacent cement plant), but surpluses could be sold to other users in Dar es Salaam (see below).

In 1995 the tender was won by TransCanada PipeLines Ltd (TCP; a major oil- and gas-pipeline operator now known as TransCanada Corporation) in partnership with a Canadian developer, Ocelot International Inc. (Ocelot).* They established the project company, Songas Ltd (Songas).

Why Did GoT Use the PPP Route?

There were various reasons that led GoT to use a PPP route rather than procure the project in the public sector:

- Tanzania did not have any public-sector expertise in gas processing or pipelines, so it would have been necessary to engage a private-sector company for this aspect of the project anyway.
- Neither the state-owned Tanzania Electric Supply Company Ltd (Tanesco) nor GoT had a budget for such a major project and borrowing the funding, even assuming that this would have been possible, would have reduced funding available for other development projects and hence delayed their implementation.
- The private sector would have a strong incentive to manage the construction and operating risks in the project efficiently because a PPP would involve significant private-sector investment in the project.
- There would be wider benefits from building investor confidence in Tanzania.
- The project would also lead to the development of a commercial gas market (based on the sales of surplus gas).

* Although originally 16 companies had expressed interest in bidding for the project, in the end there were only two bids, the losing one being from a consortium led by Enron Corporation, a US power developer and trader that went bankrupt in 2001 (cf. **Bujagali Hydropower**).

ITPL

In parallel with the Songo Songo project, GoT was procuring another $163m 100 MW IPP (using imported diesel), known as Independent Power Tanzania Ltd (ITPL), whose investors were Malaysian. This was a 'fast-track' project based on an unsolicited bid. Tanesco signed a PPA with ITPL in 1995. This project became the subject of considerable controversy. The DFIs involved in the Songas project, the World Bank and the British DFI Commonwealth Development Corporation (CDC) were concerned that at that time there was no need for both projects[*] and that Tanesco did not have enough revenues to pay for two, relatively high-cost PPAs at once. There were also allegations of corruption and suggestions that the project cost, and hence the cost of the power under its PPA, was too high. The International Monetary Fund threatened to cancel a $234m structural adjustment loan on which GoT was relying. Succumbing to DFI pressure, in 1997 GoT cancelled the project on the grounds of excess costs and an arbitration proceeding with ITPL began in late 1998. In 2001 the arbitration panel ruled that the cost of the project had been inflated by about 18%, but that after reducing the tariff accordingly the project should go ahead, which it did in due course.[†] This situation caused the development of Songas to be put on hold from mid-1997 to mid-2001. It also caused Ubungo to be scaled back from the originally-agreed capacity of 180 MW to 115 MW.[‡]

AES Takeover of Songas

In 2000 TCP withdrew from the project (as part of a divestment programme of non-North American assets) and sold its interest to AES Corporation (AES), a major US power developer, for $40m.

In 2000 Ocelot agreed with the AIG African Infrastructure Fund (an emerging-market investment fund in which the main investor was the US insurance company AIG) and Rand Merchant Bank (South Africa) to inject its African businesses into a joint venture named PanAfrican Energy Corporation (PAE). PAE's subsidiary, PanAfrican Energy Tanzania Ltd (PAT), took over the participation in Songas. PAT also sold its shareholding to AES in 2001 for $22m, but remained the operator of the gas field.

Power-Purchase Agreement

The 20-year PPA between Songas and Tanesco, together with other key contract documentation, was originally signed in 1997. (There were subsequent changes before financial close in 2001.) Under this agreement:

› Songas was to be responsible for the design, construction, finance and operation of the project as described above.

› Tanesco was responsible for securing the relevant wayleaves for the pipeline.

› Tariff: Tanesco makes monthly payments, consisting of
  - a capacity payment, designed to repay Songas' debt and provide the equity investors with their projected return over the life of the project (subject to the points below); payments decline on a straight-line basis to zero by the end of the contract; and
  - a variable payment, primarily designed to cover Songas' fuel (gas) and O&M costs.

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* As will be seen this situation changed from the mid-2000s.

† ITPL began producing power early in 2002. It is worth noting that ITPL is still significantly more expensive than Songas, even though the cost of the latter project included all the gas infrastructure.

‡ As will be seen below, an expansion took place in 2005 when more capacity was needed.

These tariff payments are partly payable in US dollars and partly in Tanzanian shillings (TZS), reflecting Songas' anticipated costs. On average 25% is payable in US dollars and 75% in TZS.

- There are penalties and bonuses that are designed to ensure that Songas operates the facilities according to prudent utility practices and maximises availability, subject to adhering to the agreed budget.
- The key risks assumed by Songas were:
  - construction cost overruns: overruns up to 15% over the agreed costs had to be funded 50% by new equity with no adjustment to the tariff, and 37.5% by a GoT loan plus 12.5% new equity, both with a tariff adjustment.
  - delays in completion due to its or its contractors' failure to design the project or management construction adequately: penalties were payable for each day of delay.
  - failure to maintain dependable capacity, heat rate* or gas quality.
  - operating costs exceeding O&M budgets.
- AES provided a $50m parent company guarantee (PCG) to finance cost overruns or delay penalties and another PCG of $10m for losses caused by wilful misconduct or gross negligence.
- The project is structured as build-own-operate, ***i.e.*** the project belongs to Songas even after the expiry of the PPA.
- Tanesco's obligations under the PPA are supported by an Implementation Agreement between Songas and GoT, in which ***inter alia*** GoT guaranteed Tanesco's obligations (see also section on finance below).
- In the case of termination for default by Tanesco or GoT, Songas is entitled to its loss of profit (no method of calculating this is specified).

Non-Songas Gas

PAT is both a subcontractor to Songas as the gas-field operator, and has a separate joint-venture agreement with the state-owned Tanzania Petroleum Development Corporation (TPDC). The latter provides for joint marketing of surplus gas not required by Songas (known as 'Additional Gas', as opposed to Songas' 'Protected Gas') to commercial and industrial users.† Songas' pipeline has to be made available to the joint venture on a pre-agreed tariff.

The benefit of this arrangement is shared between the joint venture, GoT in the form of additional gas fees and Tanesco (thus providing a subsidy towards Tanesco's capacity payments under the PPA). Songas pays about 25% of the market price for its gas, which takes account of the fact that it paid for the gas infrastructure.

About 45% of the pipeline capacity (100 MMCF/day) is used to supply Songas, and PAT sells a further 45% to Tanesco and 10% to other industrial users in Dar es Salaam. The total gas produced by PAT now powers 50% of the Tanzanian national grid.

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* ***i.e.*** the amount of gas required to produce a given power output.

† This meant that ITPL could be converted to gas firing, but to date this has not happened. Recent estimates are that this failure is costing GoT $11m per month in extra fuel import charges. ITPL has defaulted on its debt, originally provided by Malaysian banks but now held by Standard Chartered Bank (UK), which means that effectively the bank controls the project.

Finance

At financial close in 2001 the total projected cost of the project (excluding the 65 MW expansion) was $313m, with financing wholly in US dollars, at a 75:25 debt : equity ratio.

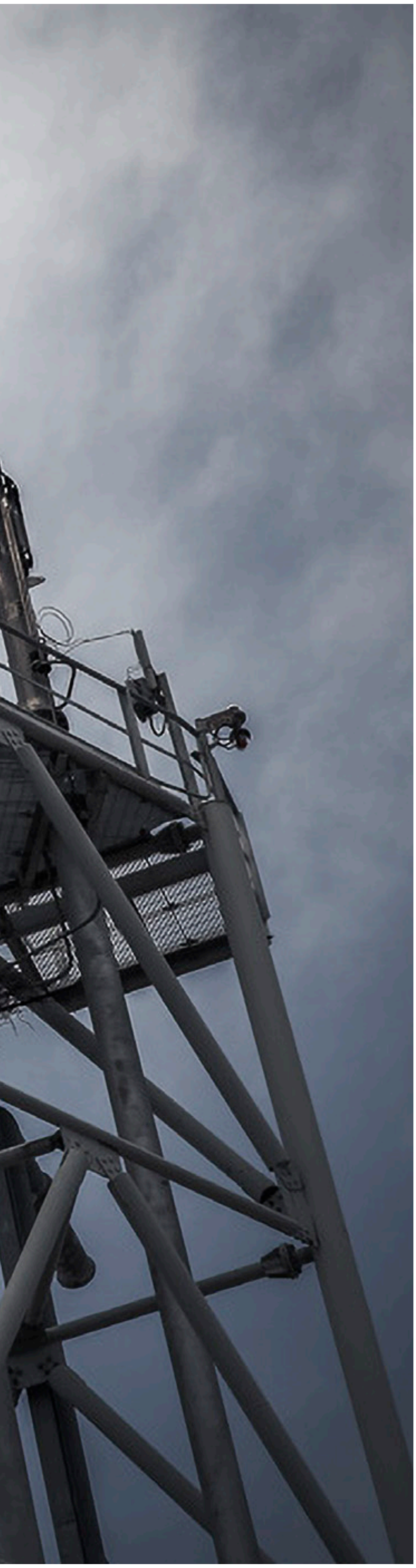
- **Equity.** At financial close the equity structure was a complex mix of common stock and two classes of preferred stock (see Fact Sheet). However, AES, as the main sponsor, invested 50% of the total equity and effectively controlled Songas. CDC held 23% of the total equity. GoT retained an equity interest in the project and the balance of equity was held by Tanesco and TPDC, as well as Tanzania Development Finance Company Ltd (TDFL).
- **Debt.** It was clear in 1995 that because of Tanzania's weak balance of payments performance and heavy external debt burden, and Tanesco's poor financial and operational performance, there would be no interest from commercial banks in providing debt for the project, nor from other sources such as export-credit agencies. By 2001 the World Bank had developed its partial-risk guarantee, which could have been used to cover the political risks in the project, but it would have required a new set of negotiations that would have delayed the project unnecessarily, and hence involved the sponsors in substantial extra development cost. Therefore, the decision was taken to keep the debt structure as originally agreed in 1995: the World Bank's soft-loan agency International Development Association (IDA)[*] and EIB lent $238m of 20-year debt to GoT, which then on-lent this sum to Songas.
- **Equity security.** A feature of the debt finance, and one that became significant in later years, is that if Tanesco does not make the required payments under the PPA, Songas can offset these amounts against the debt service due on the GoT loan.[†] The result is that the debt is effectively subordinated to the equity (other than in the case of poor performance by Songas); a very unusual structure.

Furthermore, from 1996 onwards GoT imposed a petroleum surcharge, used to fund an escrow account that reached $50m by 2001. This sum was in effect security for the equity investment should the project be terminated on default by Tanesco or GoT. After completion of construction GoT was allowed to draw $2.5m ***p.a.*** from the account so long as Tanesco made its payments on time.

GoT also established a $25m liquidity facility, equivalent to four months' capacity payment, that could be used if Tanesco failed to make the payments due under the PPA (other than debt service due to GoT, that is deemed to have been paid in this situation).

* The rôle of IDA in this project has remained unique: normally one might have expected International Finance Corporation (IFC), the World Bank's private-sector lending arm to have become involved, but IFC had had a very limited rôle and it was easier to continue with IDA, which had already been extensively involved in financing Tanzania's energy sector.

† In 2005 Tanesco ceased to pay Songas the portion of the capacity charge (about one-third) that covered the latter's payments on the GoT loan. Thus, Songas also ceased to make debt-service payments on the GoT loan.



Withdrawal of AES

Soon after financial close AES ran into problems after the collapse of Enron (*cf*. **Bujagali Hydropower**), and was forced by its bankers to sell off assets, including Songas. In 2002 the majority of AES' shareholding was purchased by CDC's power-generation subsidiary Globeleq. Globeleq now controls Songas and runs project operations. The balance of AES's shares was purchased by FMO, the Dutch DFI.

Construction

Construction of the project was not carried out under one EPC contract, under which the EPC contractor would have had single-point responsibility for ensuring that the project was completed on time, on budget and to specification, presumably because of the complex nature of the works. Instead the separate works packages were managed by AES and PAT. As mentioned above, AES took on some of the financial responsibility for these risks.

Despite the lack of an overall EPC 'wrap', there were no major interface problems between the contracts, the construction contingency was not used, and the works were completed in 2004 only six weeks behind schedule. The tariff was fixed at the end of construction based on actual costs, but given that these costs were as originally agreed the sharing of cost overruns set out in the PPA did not apply.

'AFUDC'

Another major issue hanging over the project during the construction phase was the so-called 'Allowance for (Equity) Funds Utilized During Construction' ('AFUDC'). This claim was derived from development costs going back to 1997 and further equity investment made during construction, the sums being increased by a compound interest rate of 22%, reflecting the fact that these were high-risk development costs. The AFUDC came to a total of $103m by 2003. This sum would have been repayable from completion of construction over the life of the project at a rate of return of at least 18% ***p.a.***, the effect of which would have been to increase the capacity charge to 30% of Tanesco's total revenues.

Although it was fully entitled to these payments, Globeleq, as a subsidiary of a DFI rather than a purely commercial operation, agreed that GoT could 'buy down' the AFUDC, meaning that the whole $103m could be paid off at once, rather than at a very high interest rate through future capacity charges. The resources for the repayment came, firstly, from Globeleq agreeing that the $50m escrow account mentioned above would not be required and so could be used for the buy-down, and secondly from payments by GoT and Tanesco.

Ubungo Expansion

The 65 MW expansion of Ubungo, postponed as a result of the ITPL capacity becoming available, was carried out in 2005 once demand made this necessary. Its $50m cost of this was funded by equity from Globeleq, ***i.e.*** there was no new debt, which was obviously not ideal, given that equity costs far more than debt. However, Globeleq allowed Tanesco to buy down $43m of this cost, as had been done with the AFUDC, thus substantially reducing the long-term financial burden.*

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* This buy-down was in effect a capital grant (cf. **Mbombela Water, Tšepong**).

Operations

At the time of signing the PPA, Tanesco was suffering from the effect of years of inefficient operation and poor collection rates. Moreover, it had been obliged by GoT to invest in rural schemes that, while socially important, were not financially viable. GoT had also been slow to pay its own electricity bills and to approve necessary tariff increases.

As part of its conditions for the IDA loan, the World Bank set targets for privatisation of Tanesco. In 2002 it became a limited company but its shares remain wholly owned by GoT.* Similarly an unbundling of the electricity sector into generation, transmission and distribution, combined with the introduction of private-sector capital and management (*cf*. **Bujagali Hydropower**), another of the World Bank's requirements, has not taken place.

When Songas and ITPL came on stream this transformed power generation in Tanzania; from being nearly 90% dependent on hydropower, 60% of power generation (33% of capacity) came from thermal plants, mostly these two IPPs. Tanzania was therefore able to avoid load shedding, unlike the situation in other East African countries at that time. Songas has performed well since beginning operations in 2004, with Ubungo's availability averaging around 96%. It is run as base load (90% load factor) except during the rainy season when the hydropower plants are cheaper. It now has only four expatriate staff, with 70 local staff.

Tanesco Problems, 2012–2016

However, during periods of drought capacity remained inadequate, and in 2006 the first load shedding took place since the arrival of the IPPs, although this ceased in 2007 under normal hydrological conditions. With prolonged drought conditions in 2011–2015, Tanesco was forced to rely on expensive emergency power projects (EPPs) using diesel or heavy fuel oil.

In 2013, with half of its thermal capacity coming from EPPs, Tanesco's average cost of power, at 15¢/kWh, was said to be three times the tariffs charged to consumers.† Power from Tanesco's own generation cost 10¢/kWh, Songas 5¢,‡ IPTL 31¢ and the EPPs 40¢.§

Tanesco's latest available financial statements for 2013 show revenues of TZS933bn (approx. $575m), and a net loss of TZS468bn. As is evident from these accounts, the cost of the EPPs had become too great for Tanesco to manage, and as a result, from 2012 onwards Tanesco fell into arrears in its monthly tariff payments to Songas.¶

Tanesco was able to stop using the EPPs at the end of 2015,** and has been able to make current monthly tariff payments to Songas in 2016, but it does not have the resources to pay off the tariff arrears that accrued in 2012–2015 amounting to some $90m. From late 2015 onwards Songas threatened to shut down its generation if the arrears are not paid, and in May 2016 it shut down five of its six generators, reducing capacity to 38 MW. (Under the PPA Songas is entitled to do this if it is not paid and Tanesco is obliged to keep paying the capacity payment despite the capacity reduction.) This did not result in any load shedding as the hydropower projects were able to operate at full capacity. Further talks with GoT and Tanesco led to assurances that arrears would be paid, and Songas resumed full production during the summer of 2016. However, these payments remained outstanding.

Songas could increase capacity from 180 MW to 240 MW by upgrading the Ubungo plant and would also be willing to make new investments, but that is on hold at the time of writing.

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* In 2002–2006 a South African company had a management contract for Tanesco but this is no longer the case.
† In 2013 Songas provided about 12% of the total capacity but 23% of the actual generation of power in Tanzania.
‡ It has to be borne in mind that this figure includes the cost of the gas infrastructure.
§ These figures include both capacity payments (except for Tanesco's own generation) and variable (fuel) payments.
¶ This also caused Songas to fall into arrears in gas payments to PAT (and Tanesco is also in arrears in its payments to PAT for Additional Gas).
** All the hydropower plants were switched off in October 2015 because of lack of water, but were able to restart after the long rains in December.

Benefit of the Project

Despite the current difficulties, Songas has been very beneficial to Tanzania, not just because of the additional power-generation capacity but also because of its saving on imported fuel oil for power generation. TPDC said in 2015 that the project had saved some $5bn of oil imports.

Policy Points

General

- **PPPs** versus **public procurement**. The original reasoning that led GoT to use a PPP approach for this project has been proved correct. Songas has been very beneficial to the Tanzanian economy, both in terms of vital power-generation capacity and the huge savings on imported fuel oil. It is unfortunate that Tanesco's problems have begun to undermine this benefit.

- **Political interference**. To a large extent Tanesco's difficulties are not of its own making, but result from GoT requiring them to purchase expensive temporary power from EPPs without providing any subsidy or allowing Tanesco to recover the extra costs through its own tariffs. Like all political interference, this was short-sighted, as it is hardly likely to encourage new investment in IPPs.

- **Sectoral reform**. Another of the underlying causes of the problems that Tanesco, and hence Songas, has suffered in recent years is the failure to reform the electricity system, with GoT instead relying on short-term solutions (ITPL, EPPs) to meet immediate crises (*cf*. **Bujagali Hydropower**).

Project Structuring

- **Interface risk**. Procurement by Songas of both the gas production and transport and the power-generation sides of the project as one ensured that a situation did not develop where the gas side would not start until the electricity side was ready, and ***vice-versa***, so neither project could get started. Splitting the construction works into separate packages—i.e. with no turnkey EPC contract—was a risky procedure, although it was managed well in this case.

Procurement

- **Development risk**. If it takes too long to reach financial close, the sponsors' costs can become unsustainable. In this case the accrued costs (the AFUDC) reached over $100m, almost a third of the total project costs. Had Globeleq not agreed to the buy down of these costs, and thus sacrificed a substantial part of the future equity return to which it was entitled, the tariff payments would have been significantly higher.

- **Unsolicited bid**. Far from being a 'fast-track' solution, ITPL took years to deliver, and even worse, delayed Songas by four years. Unsolicited bids often just disrupt an orderly development of a PPP programme.

Finance

- **Currency risk**. Since financial close the value of the Tanzanian shilling against the US dollar has halved. Fortunately, in this case—not least because the gas comes from domestic sources—only a small proportion of the tariff is denominated in US dollars, and hence the currency risk for Tanesco is limited.

- **Capital grant**. The benefit for Tanesco of paying off part of the development costs was considerable, but this was an unusual case because in effect the grant was used to pay off only part of the high-return equity investment. Usually the grant is allocated pro rata between debt and equity. The buy down of the Ubungo expansion in 2005 was on a similar basis.

- **DFI support**. Although the debt structure used for Songas has not been applied to other projects, there is some merit in a DFI lending to the government and the latter then on-lending, with the ability to offset payments against the PPP payments. The alternatives, generally used now, of either a direct DFI loan or a commercial-bank loan with a partial-risk guarantee for political risks including default by the public authority, does not really help a project in cash-flow difficulty, as the loan instalments have to be paid, and a PRG can usually be called upon only if the PPP contract is terminated.

- **PPP with no private finance**. Arguably Songas is not a PPP, in the sense that Songas actually has no investors or lenders from the private sector, so it is more of a 'public-public partnership'. If Tanzania is to invest in infrastructure on the scale its economy needs, more will need to be done to attract private-sector capital. Unfortunately, the recent history of non-payment is likely to make this difficult.

Fact Sheet

Project Name
Songas Songas

Country
Tanzania

Project summary
Integrated gas-to-electricity project, including:
- rehabilitation of wells in gas field 25 km off the Tanzanian mainland;
- gas processing facility on Songo Songo Island;
- 25 km sub-sea and 207 km onshore gas pipeline to Dar es Salaam;
- conversion of existing Ubungo 115 MW power station from fuel oil to gas-firing
- 65MW expansion of Ubungo

Public authority
Tanzania Electric Supply Company Limited (Tanesco)

Project company
Songas Limited (Songas)

PPP contract type / term
Power-purchase agreement / 20 years

Project cost / funding
$313m, funded by equity of $76m (25%) and debt of $238m (75%).
The later 65 MW expansion of Ubungo was 100% equity-financed by Globeleq (see below)

Equity investors

Development phase
The original sponsor-developers of the project were:
- TransCanada PipeLines Limited (TCP); investment sold to AES Corporation (AES) in 1999;
- PanAfrican (see below); sold its investment to AES in 2001;

CDC Group (formerly Commonwealth Development Corp.) was involved in the project from 1996. IFC and DEG were also initially involved but later withdrew because of the ITPL dispute. These DFIs were to own the Preferred B shares (see below). CDC took over their interests in the project.
At financial close (2001)

The equity structure was as follows ($m):

(N.B. figures exclude the $50m funding for the 65MW expansion of Ub-ungo.)	Class of equity			Total	%
	Common	Preferred A	Preferred B		
AES	2.06	47.94		50.0	65.7
CDC	3.60		14.40	18.0	23.8
Tanesco	3.00			3.0	4.0
TPDC	1.00			1.0	1.3
TDFL	0.80		3.20	4.0	5.3
Total	**10.46**	**47.94**	**17.60**	**76.0**	**100.0**

Common stock:

- The Tanesco investment was in kind, based on the value of Ubungo.
- Tanzania Petroleum Development Corporation (TPDC) investment was also in kind, based on contribution of existing Songo Songo gas field assets.
- Tanzania Development Finance Company Limited's (TDFL) investment was funded by European Investment Bank (EIB); TDFL was state-owned, but since 2004 has been owned 68% by BancABC (since 2014 owned by Atlas Mara Ltd.) and 32% by the Government of Tanzania (GoT).

The projected return on the common stock was 20% *p.a.*; it was to be listed on the Tanzanian Stock Exchange in the tenth year of operations (this has not happened).

Preferred A stock was partly paid in cash and partly in agreed development fees; repayable over 20 years at a return of 18%. While Preferred A stock is out-standing it controls the votes of the common stock, and hence the manage-ment of Songas.

Preferred B stock was repayable over 10 years at a return of 18% and has now been repaid. This stock had certain blocking rights on major decisions and gave GoT reassurance on these issues as it was held by a DFI.

N.B. As the name implies, should Songas have a shortage of cash flow, payments to the preferred stockholders are made in priority to the common stockholders.

AES withdrawal

AES withdrew from the project in 2001. Globeleq (established by CDC Group for power projects) purchased the majority of AES' shares, funded the full $50m cost of the 65 MW capacity increase at Ubungo, and now controls Songas. (Globeleq is now owned 70% by CDC Group and 30% by Norfund.)

FMO took over the Preferred B stock from CDC.

Current position

The current shareholding structure is as follows ($m):

	Class of Equity			Total	%
	Common	Preferred A	Preferred B		
Globeleq	5.7	13.9		19.6	80%
Tanesco	1.0			1.0	20%
TPDC	3.0			3.0	
TDFL	0.8			0.8	
Total	**10.5**	**13.9**	*Repaid*	**24.4**	

Lenders

International Development Association (IDA) loan of $183m at 0.75% interest, and EIB loan of $55m; loans are for 20 years. The loans are to GoT, which on-lends to Songas.
The GoT loans to Songas are for 20 years, with 3.5 years' grace, at an interest rate of 7.1%

Construction

There was no EPC contract; works packages were managed by AES. Larsen & Toubro constructed the gas infrastructure and pipeline.

Gas supply

Gas is produced and processed by PanAfrican Energy Tanzania Limited (PAT, a subsidiary of Orca Exploration Group Inc. (formerly part of Ocelot International Inc. [Ocelot]) as an upstream contractor on behalf of Songas.

Operation & maintenance

Managed by Songas' staff

Public-sector support

Implementation Agreement between Songas and GoT

Project development

1974: SongoSongo gas field discovered by AGIP (Italy)

1991: Ocelot signed exclusive agreement to develop reserves

1993: GoT invited international tenders for the development of the project

1994: Awarded to Ocelot in joint venture with TCP

1997: Key project contracts signed

2000: TCP sold its interest to AES

- Financial close

2001

- Construction

2004: Original construction of the different project elements completed and Songas began operation

2005: Ubungo capacity increased by 65 MW to 180 MW

Historical exchange rates

	Year	Rate	Year	Rate	Year	Rate
(Annual, as at 1 January) Tanzanian shillings per US$1.00.	2000	798	2006	1,181	2012	1,592
	2001	810	2007	1,292	2013	1,618
	2002	935	2008	1,160	2014	1,624
	2003	1,019	2009	1,308	2015	1,765
	2004	1,111	2010	1.336	2016	2,187
	2005	1,100	2011	1,505	1 Sep 16	2,186

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(* = internet download)

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Songas
GLOBELEQ