1 Background

Following decades of failure to mobilise private finance for large hydropower in developing countries, there is consensus that a new model is needed to address the risks that deter investment. In 2017 Mike McWilliams (McWilliams, 2017) conceived an alternative model: Finance, Engineer, Lease and Transfer (FELT). This model addresses the risks encountered by developers of long-gestation, capital intensive hydropower projects in the most difficult financing environments.

While FELT was conceived for use primarily in developing countries due to the need to redress the risk balance towards the public to facilitate financing, it has been recognised that the model can provide significant advantages for implementation of infrastructure in developed countries.

2 Why do we need a new model?

In recent years there has been a reaction against the PPP/PFI method of procurement, with a growing view that it is inflexible and does not provide value-for-money. Under PFI the developer's revenue stream is entirely dependent on his ability to deliver services for the duration of the concession, and the future risk of this delivery, along with all the other development risks, is crystallised at contract signature. Also any changes, and these occur frequently with hospitals and technology based infrastructure as the science develops, are difficult and expensive to implement under PFI.

In the power sector a different model is emerging for ancillary services (such as frequency control, capacity, inertia, blackstart and storage), with auctions used to contract the services. While auctions can be successful for individual services, it is virtually impossible to finance new projects with multiple uncertain revenue streams over different contract periods. Even if successful these auctions will lead to inefficient development of the required power infrastructure.

It has become apparent, and should be no surprise, that companies that are good at building infrastructure are not necessarily good at operating it. The skillset required and corporate structure are very different. Essentially two different businesses need to be merged to deliver a PFI or BOT project.

3 How FELT works

Under FELT the public entity defines its requirements, carries out studies, obtains land, licences and permits and brings the project to "shovel-ready" status, as if the project is to be awarded on an Engineering, Procurement and Construction (EPC) / Turnkey basis. It then goes to the market to competitively procure a consortium to deliver the project under a FELT contract. The private sector consortium will finance, design, construct and commission the project. On completion the project facilities are leased to the public entity for its beneficial use for a specified term. At the end of the FELT term the facilities are transferred free-of-charge to the public entity, which then has full ownership of the project.

The public entity can operate the facilities itself or contract out this function. The term of the operating contract may be different from that of the FELT contract (most likely shorter). The lease payment is not dependent on the performance or availability of the facilities; once construction is completed to the required specification, and proven to perform as specified through appropriate performance and durability tests, there is no obligation on the private consortium other than to make the facilities available to the lessee.

4 Will FELT cost more?

A large part of the cost of a BOT or PFI project (perhaps upwards of 50%) is payment for risk, including the future risk of delivering operation and maintenance (O&M) services. The cost of future uncertainties is crystallised at contract award.

Under FELT, depending on the precise detail of the contract, some of the construction stage uncertainties can be shared. This can include sub-surface conditions, which are often uncertain and can result in cost increases and delays. Without a long-term O&M obligation, the future uncertainties for the private consortium are virtually eliminated.

Although the risks cannot be eliminated just by re-allocation, under FELT they are not crystallised at contract award. Construction risks can be reimbursed if they occur, and there are no significant long-term risks under the FELT contract. Hence the initial cost should be lower, and potentially the whole-life cost can be reduced.

5 What infrastructure is suitable for FELT?

Virtually any long-life asset can be suitable for FELT. This includes new-build projects, such as schools, hospitals, prisons, roads, railways, power stations and transmission lines, as well as refurbishment and upgrading of such assets. For the transfer to have value, the economic life of the asset should exceed the FELT term, and there should not be a decommissioning liability.

6 Better for the taxpayer

Under a FELT concession the taxpayer is not locked into a long-term operating contract, and hence has the ability to change operator or internalise operation. The public entity has full control of the facility, and subject to the contract terms, may make alterations and additions without incurring additional cost. Hence the public entity has greater flexibility in its use of the facility, as well as lower costs.

Most public infrastructure will have a life substantially greater than the FELT term, subject in some cases to renovation, and hence the transfer of ownership of the facility at the end of the term returns the whole project to public ownership without further outgoings.

7 Better for the developer

By virtually eliminating the long-term risk to the developer and potentially reducing the construction stage risks, financing of the project will be much easier. Construction companies, who are expected to lead FELT consortia, are comfortable with construction-stage risk.

Once the project is completed and the warranty period has expired, refinancing at more attractive interest rates is possible. This provides a bonus for the consortium, which should be taken into account in its initial FELT offer, reducing the price of the lease. Refinanced FELT leases will be attractive investments for pension and insurance funds and other financiers with low risk appetites, and will have investment profiles similar to zero maturity value bonds. This will introduce new financiers to the infrastructure funding market.

8 Accounting

One of the attractions of PFI in UK in the past was the different accounting treatment of finance leases (such as FELT) and operating leases (such as PFI).

Under new IFRS 16 accounting methodology, introduced for government entities reporting after 1 January 2019, this difference is abolished for lessees, while remaining for lessors. Hence lessees (the public entity under FELT) will recognise the right-of-use as an asset, and the lease obligation as a liability. Under IFRS 16 the right-of-use asset is treated similarly to other non-financial assets and depreciated accordingly. However, in view of the free transfer of ownership at the end of the FELT term, the asset in this case appreciates in value for the Lessee.

9 Summary

Now that PFI, and to a lesser extent BOT, are considered not to provide good value for money for public infrastructure, being regarded by many as inflexible and expensive, the time is ripe for an alternative. Since one of the main accounting drivers for PFI has disappeared with the introduction of IFRS 16, separating the provision of facilities from their operation makes eminent sense.

A replacement model should however maintain the use of private finance for the long-term funding, and ideally retain responsibility in the private sector for delivery of the infrastructure. The FELT model meets both of these requirements, and additionally, through equitable allocation of risks, should reduce the cost of projects significantly.

Appendix A Abbreviations and acronyms

BOT	Build, Operate and Transfer
EPC	Engineering, Procurement and Construction
FELT	Finance, Engineer, Lease and Transfer
IFRS	International Financial Reporting Standards
O&M	Operation and Maintenance
PFI	Public Finance Initiative
PPP	Public-Private Partnership

Appendix B References

McWilliams, M. (2017). *Finance, Engineer, Lease and Transfer (FELT): an innovative alternative for development of hydro.*