

**# 398**

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**AMQ International's STRATEGIC  
ASSET MANAGEMENT**

**The 6th Option**

In the last issue, Professors Mark Knight and Andre Unger of the University of Waterloo considered five existing funding options for infrastructure. What was clearly **not being addressed by any of these was long term funding for asset renewal**. In this issue they present a **6th Option** - an intriguing case for encouraging pensions and insurance funds to see investment in long term asset renewal as a profitable and viable alternative to low risk, but low return government bonds.



**When none of the five options facing you do the job - consider the 6th option. (pp 2 - 5)**

Also in this issue: **Why increasing the supply of asset management is not enough** - and how (in the absence of complementary measures) it may even be detrimental to the asset management profession. (pp 6 - 10)

**And: Two WEBSITES that I would recommend you have a look at. (p. 10)**

**Enjoy!  
Penny**

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## A proposal to capture the support of pension funds, banks and insurance companies.

**In part one**, the authors considered 5 options currently in use for funding municipal water infrastructure, namely Option 1: Do nothing. Ignore it, and the problem will go away., Option 2: Government grant programs, Option 3: Pay-as-you-go, capital reserving, and borrowing, Option 4: Private public partnerships (PPP) and Option 5: Privatisation. Here in part two they put forward an innovative solution to enable secure funding for programs of water infrastructure renewal and expansion rather than merely individual projects.

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### The essence is managing risk

Private sector investment has been used to fund capital works projects within municipal water systems, but not on a scale that has had significant impact on reducing the existing infrastructure deficit. Federal and provincial governments are searching for a mechanism to increase the magnitude of the private sector investment for the mutual benefit of the municipalities as well as the investors.

Water utilities can be considered safe and secure investments when they have the following attributes: 1) sole source monopolies on the distribution of water, 2) ability to set water rates to be financially self-sustainable, 3) service a stable and/or growing population where water is an affordable fraction of household income, and 4) a liability-equity ratio that is within an acceptable ratio.

On the other side of the equation, pension funds, banks and insurance companies are looking for low risk investments and would be an ideal match in terms of the need for longer term, safe investments. Yet so far little has been done in this area because there has not been an appropriate vehicle

Such a vehicle could be created if pension funds, banks and insurance companies were to pool some of their resources to establish a Municipal Water Infrastructure Fund (MWIF) which would then lend funds to utilities for long-term capital works programs. Most investment portfolios want to have a percentage of their total funds in risk free or relatively risk free investments, and this would provide an avenue for such investment that provide a somewhat higher return – yet with great security.

## How Funding Agencies can be assured of their risk profiles

The security is provided in the following way. Utilities that were prepared, and were able, to submit well prepared long term (50 year) asset management plans along with financially sustainable rate plans would be assured the funding that they need. All that would be at issue is the rate of interest to be applied. Low risk utilities could be assessed at, say, 1% above the risk free rate while higher risk profiles could be 2% above the risk rate. Utilities that were assessed to be riskier than this would not gain approval for participation in the fund until they improved their management.

Essential to this proposal is a way to measure the risk profile of the organisation. The University of Waterloo has developed one such risk profile measuring tool and applied it to the City of Waterloo, City of Cambridge and City of Niagara Falls water utilities.

Key utility risk indicators include: 1) financial sustainability - are rates sufficient to generate sufficient revenue to cover expenses over the next 20 to 30 years? 2) is the customer base stable and will it be stable over the loan period? 3) will water be affordable over the short and long-term? and 4) will proposed capital expenditures reduce operation costs i.e. will capital investment results in significant reductions in long-term operation costs?

## How the model works

Using such a model, risk can be easily re-assessed on an annual basis. For example if the water utility's financial sustainability or liability to equity ratio has decreased a risk premium can be applied to reflect the change in the risk profile. Likewise if a Utility through good management has improved its risk profile the interest premium may be reduced. In this way the fund is an 'Annually Risk-Adjusted' Water Fund based on the water Utilities performance and management. Investors are protected by appropriate changes in interest rates and utilities are protected by being assured of needed income whilst at the same time being encouraged to improve their performance and reduce their risk profiles.

For municipalities to be able to interact with these financial institutions on a meaningful scale, a few issues need to be resolved.

1, First and foremost, municipalities would need to reorganize their water distribution services into not-for-profit utilities under the ownership, but not the management, of their municipality. That is, they would need to be financially independent, with their own board to set water rates, and they would need to keep their own accounting books.

2. Next, the utility's relationship with investors must permit them retain operational control (and municipality ownership) of the infrastructure. Business as usual in terms of municipalities controlling the tender-bid process would be maintained. However, it would preclude PPPs and privatization.

3. ALL levels of government would need to support and encourage borrowing from the private sector (either through the fund or otherwise) and cease to provide loans or grants as has traditionally been done for this would undermine the performance discipline required.

### **So what is the path forward?**

To make the MWIF distinct from PPPs, we could consider a Risk Management Corporation (RMC) gaining a long-term contract to interact with the utility to secure funding for operational and capital expenditures needed to manage the water distribution network. The RMC also negotiates with capital market investors via a letter of credit to collect sufficient and timely capital at minimal default risk. How is this different than the SPV operating within the PPP? The RMC allows the utility to conduct all operational and capital expenditure activities. The utility also collects all user fees from the residents that it serves, and negotiates all tender-bid contracts. Basically, business as usual. The key feature that the RMC enables is the transfer of funds from its trust to the utility based on an annual review of the water distribution system. In other words, the RMC and utility must together negotiate and disclose a plan for the long-term management of the water distribution system. It then becomes the RMC's job to ensure the utility remains on target with the plan, and consequently to place a cap on project delays and cost overruns between the complex interweaving of projects that the municipality has tendered. If all goes as planned, the utility transfers user fee revenues to the trust managed by the RMC.

How might this arrangement attract enough investment to take care of the infrastructure deficit? First, the interest rate premium on lent capital will be essentially equivalent to a PPP, and hence is much higher than what could be earned by purchasing risk-free federal bonds. However, the risk of default is minimal provided the residents find their water bill affordable, and there are sufficient water resources to serve the population.

Second, there is now transparency in the disclosure of the current state of the water infrastructure system, and management plans required to reduce the infrastructure deficit.

Third, the RMC can manage the trust within which funds from the capital market investors, and revenue from the user fees, is held. Hence, capital market investors are able to cash-out should they need to monetize their prior position in the RMC. Liquidity of their invested capital would be maintained by a reduction in interest rate earnings much in the same way as banks operate checking accounts.

### **How can governments benefit from a MWIF?**

In the past government grants and loans have been relied on by water utilities as a source of capital works funding. The MWIF can provide water utilities with a source of infrastructure renewal capital while at the same time implementing state-of-art asset management and financial sustainability practices. Thus, the development of the MWIF will allow governments to allocate scarce financial resources to other than water infrastructure assets such as roads, parks, buildings etc. To encourage innovation in the

water sector, government can develop a water innovation fund (putting previous renewal grants and funds to good use) This water infrastructure fund can be used to fund research, advance water technology and pilot new water technologies that can reduce networks operation costs.

Governments will also benefit from the creation of jobs that can result from multi-year infrastructure renewal programs and the development of new water technologies that can be used internally as well as exported globally.

In summary, the MWIF can be a quadruple win for water utilities, investors, government and the public. A win for water utilities as they will have access to secure long-term capital works financing allowing them to minimize their cumulative expenditures. It will be a win for investors because they will have access to secure investments that can earn higher interest rates than federal bonds. A win for government as they will not be required to provide water grants and loans while at the same time; creating long-term jobs, improving water infrastructure, encouraging state-of-the-art water asset management and water innovation, and driving industry to develop new technologies that will reduce network operation and capital costs. The MWIF will also be a win for the public as they will get improved water infrastructure at stable long-term rates.

## Summary

Borrowing can be a good business decision and eliminate water infrastructure deficits in 20 to 40 years. This is especially true when interest costs are very small compared to network operation and energy costs. Borrowing can also be used to reduce user rate shock and fluctuating water rates more generally which can arise when operating an annual 'pay as you go' approach

A new innovative water funding vehicle for marshalling Private Sector funds was proposed in the form of a Municipal Water Infrastructure Fund (MWIF). The development and use of this fund will enable private capital to invest in relatively risk free water infrastructure projects. It can also be used to force water utilities to apply good infrastructure asset management practices.

Whether the infrastructure project used to eliminate the infrastructure deficit operates under the paradigm of a government loan, municipal bond, or PPP, the same consequences apply. All solutions are simply a re-arrangement of the same (or similar) partners in the deal. The relationships between the partners are dictated by a desired level of control and risk sharing. Risk is worth dollars, and the private sector has the most experience in minimizing risk. Effective management of risk can easily compensate for higher cost of borrowed capital. A political solution underpinning such a projects involves the municipality, and hence utility, maintaining control of the infrastructure.

To learn more about the innovative MWIF concept and how it can be implemented please contact Drs. Mark Knight or Andre Unger at the University of Waterloo via [mark.knight@uwaterloo.ca](mailto:mark.knight@uwaterloo.ca) / [aunger@uwaterloo.ca](mailto:aunger@uwaterloo.ca).

# WHY INCREASING AM SUPPLY IS NOT ENOUGH: THE IMPORTANCE OF DEMAND

(or the importance of ‘going beyond the technical’)

## Let us first acknowledge the importance of SUPPLY

Asset Management, to say nothing of its current level of development, would not have been possible without engineers and technicians. The services asset management can now offer are very impressive and, in terms of what can be supplied, it has come a long way. We have greatly expanded our supply capability over the last several decades.

## But, and this is a very important BUT....

The ability to **SUPPLY** AM services can take us only so far. For this capability to be utilised so that society benefits, we need a matching **DEMAND**.

Analysis of the interaction of SUPPLY and DEMAND is fundamental to economics, where it is clearly understood that if you increase SUPPLY relative to DEMAND, then you make the good or the service on offer, cheaper.

Conversely, if you keep SUPPLY constant but increase DEMAND then the price goes up.

We have been increasing SUPPLY at a very rapid rate. **The question is: has DEMAND growth been keeping pace?**

## What does Demand mean?

The best way to think about Demand is to think about the number of CFOs who are prepared to **FUND** asset management; the number of CEOs who are prepared to **COMMIT** to asset management and the number of Boards and Councils who understand, recognise and value the benefits and are prepared to **SUPPORT** asset management.

It is important to understand that, for the most part, these people whose support is so vital for asset management, are not technicians. Even if they have come from a technical background, their interests have now moved beyond the technical. **It is these non-technical interests that will prove to be critical to asset management success as we shall see in a moment.**

## Do we have a Demand Deficiency?

In the current economic downturn we have seen a downturn in the demand for asset management in the business sector. Those of us who are close to asset management find this amazing - just at the very time we are needed most, we are being abandoned. And we were doing so well! We were expanding, developing, we even have an international standard! So why is this happening?

It is not for lack of interest on the technical side - Technical folk are queuing up to get accredited to introduce the new ISO 55000 into organisations. Within the major engineering associations devoted to asset management supply capability, the Asset Management Council and the Institute of Public Works Engineering Australia, we have new tools, increasing interest in learning and certification, and an expanding body of knowledge.

In fact, things are doing so well on the supply side, that it may have escaped our notice that on the demand side things are not moving forward as fast.

For example, we may be inclined to point to the fact that Government is now talking much more about asset management. Does this translate into increased demand? Partially. But you will notice that there are two main threads to the public sector discussions.

**One:** Higher levels of government are keen to *impose* the discipline of asset management on lower levels - but they are exceedingly reluctant to *take it on board themselves*. At the state level and at the federal level of government, we don't see much progress in asset management adoption<sup>1</sup>.

*Wouldn't you think that if they **really believed** in the benefits, the value of AM, that they would be keen to see these benefits applied in their own area? Wouldn't you think that they would be DEMANDING Asset Management for themselves, to require it, and be prepared to fund it?*

**Two:** Local Government have been keen to adopt, driven mostly bottom up by practitioners, and within the public sector they have been the most active in development. But even here what we see is that while top management in local government is keenly seeking funds from higher levels of government for improvements in asset management, they are less keen to divert their own monies from other expenditures to make it possible. Despite plenty of evidence to suggest that more is needed for renewal, councils continue to put the bulk of their funds into new capital works.

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<sup>1</sup> An interesting exception to this general statement would be the Federal Department of Defence which is now investing a great deal in asset management training.

*Wouldn't you think that if they really understood, if they **really believed**, they would be deploying their funds more advisedly? Wouldn't you think that they would be deliberately re-routing their funds from new works to renewal, and that when they took on new capital works, it would only be after extensive asset management analysis of the benefits and life time costs?*

**But, you say this is government. Surely things are better in the private sector where the whole idea is to make a profit?**

Surely the private sector - the mining industry, the oil industry, the gas industry - are more attuned to the value of asset management. They wouldn't be cutting back on their asset management commitments now would they? Or would they?

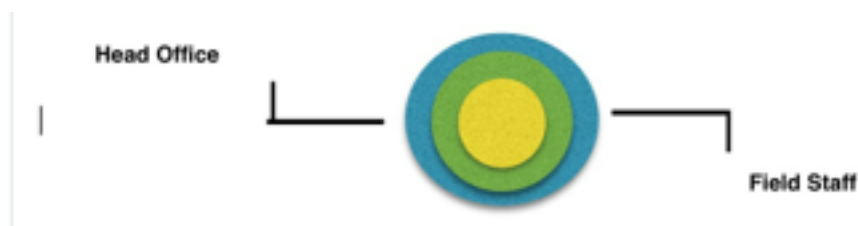
Oops! Word from Western Australia now that the mining boom is over and development funds are scarcer, is that this is precisely what is happening! Asset management is being curtailed.

**So why?**

Are our CFOs, our CEOs, our Boards and our Councils, comprised of idiots? Are they ignorant? Are we asset managers the only ones with enough wit to see what is required? Hardly!

**I believe that these two things - *expanded capacity to SUPPLY, but insufficient DEMAND* - are linked.**

Consider where asset management fits in within an organisation



Asset Management is a middle management exercise. We have been expanding its boundaries. To do so we have been making it more complex - more technical. We have made it more rigorous. This is essential if we wish to have it recognised as a profession, and it is good for our ability to supply higher quality services.

But, in the process we have developed a technical jargon that is cutting ourselves off from others in the organisation. Our focus has been on the technical processes, on what sets asset management apart from other processes in the organisation, rather than what brings them closer. This has been necessary in order to establish measures of competencies, to establish asset management as a profession in its own right.

However, it has had the effect of isolating asset management as a middle management function, separate from (1) The Field Staff and (2) Head Office



## The Field Staff

Recently I was sounding out senior asset managers at an AMC workshop. I asked them, if they could do anything at all, what would be their first wish? To a man, everyone reported some variation of the need for getting their staff 'on the same page'. They want the field staff 'to do the right thing'. Why aren't they doing it now?

The answer is complicated but it lies in going 'beyond the technical' - to make the changes that we want to see we need to *work on our relationships*. There is a great example of this in SAM Issue 279, which you can find in the SAM Downloads.

Maintenance staff were pleased with their clear up records which were in the high 90s but what they didn't notice was that these figures concealed a significant risk - although less than 5% of problems were being unaddressed in any one year - they tended to be the same problems, year after year, mostly because they were difficult to get at. Rod Smith shows how Energy Australia not only addressed this problem but got the enthusiastic support of their field staff in the process. Read SAM 279!

Aligning the interests of field staff to the needs of the organisation takes time and it is not a simple matter of conveying the desired processes. It is important that these relationships be addressed because unless the field staff are in line with the asset management objectives, there will be no performance improvement to demonstrate to senior management.

## Head Office

Which brings me back to the Head Office. What are they seeing? They don't see asset management. They can't. Asset management is invisible. Sure you can write out your processes, develop fancy models and flowcharts, but this is all technical stuff. It is not of interest to senior management. It is simply a means to an end. Their interest is in the ends, not the means. So they can see performance improvement by the field staff as it is reflected in the outcomes that are meaningful to them. That is, they can, if they look. But they do not necessarily associate these field improvements with improved decision making at the asset management level. It is up to Asset Managers themselves to make the connections - and to do so in a way that is meaningful to Head

Office. That means you need to speak the language that is important to senior management - the language of outcomes, not the language of processes and inputs.

To check how well you are doing on this score, ask yourselves

What does your Board/Council understand?

What does your CFO fund?

What does your CEO endorse?

- **If they don't understand, don't fund, don't endorse  
what must Asset Managers do?**

**This is what we will address in Part 2 -  
INCREASING THE DEMAND for Asset Management**

## **WEBSITES WORTH A LOOK**

**[1] For Local Government**, in terms of up to date and relevant content for local government, the most useful website that I have seen recently is <http://waughinfrastructure.com/> Ross Waugh, New Zealand, is developing a great set of resources for any asset manager. It is already great and can only get better. I would suggest you put it on your bookmark list.

**[2] For Australian State Government and Federal Government** departments and organisations where political issues are more of a dominant theme, there is a new website, *The Mandarin*. <http://www.themandarin.com.au/>

Many years ago when I worked for the Federal Treasury in Canberra, there was a weekly newsletter that was read by everyone, for the simple reason that it told us what was going on, not only in other departments but also gave greater insight on our own. It was a private subscription newsletter but the editor was extremely well connected and it was the most valuable reading we did all week. '*The Mandarin*' looks to me to be close to an online version of that newsletter. But it brought home to me the disadvantages of the Web. I used to be on a direct distribution list that came down from the Secretary and Deputy Secretary of the Treasury. The Secretary would make marginal comments on the articles - and the Dep Sec would then add his thoughts, either confirming or offering a counter view to those of the Secretary. As a policy researcher - this was pure gold! Still, having said that, this is an excellent source of infrastructure issues at the state and federal level (and sometimes at local government level as well) and is now daily reading for me - and if you are in a senior policy position, I think it will become daily reading for you, too.

