

IBEC WATER POLICY CONFERENCE October 10th 2012

Session 3: Investment in water / wastewater networks and water metering

Title of talk: Ensuring value for money from the State investment in water assets

Precedents

In preparing my talk for you today, I reflected on the establishment of the first independent State-owned company which was formed in 1927 – just five years after the formation of the State.

The Electricity Supply Board Act was passed to set up the ESB, a corporate body to control and develop Ireland's electricity infrastructure.

At that time, more than 300 different suppliers were involved in generating and supplying electricity in different parts of the country, including 16 local authorities and five major companies. The gradual transfer of responsibilities to the national body required both engineering and administrative skills – clearly an example that it can be done and hence a precedent exists for what lies ahead for those responsible for managing the transition to Irish Water and for those who ultimately run the Utility.

The rural electrification scheme came about two decades later and was very different from the **generation** of electricity as it involved rolling out electricity **supply** to homes in all parts of the country and of course engaging with local communities and householders many of whom were suspicious of this new offering and were it not for the support of the Parish Priest may have made ESB's job much more challenging. Such support mechanisms may not be readily available today. It should also be remembered that many took the "electric light" only to provide sufficient illumination to light the candle before extinguishing the electric light again.

But perhaps there **are** similarities between the ESB and Irish Water.

In the early days of the ESB, the **knowledge** had to be acquired and learned and communication was very difficult. With Irish Water the challenge is going to be how it **captures** the knowledge **which already exists** within local authorities and the many consultant engineering firms that have worked on water infrastructure projects - however the communication challenge is just as challenging today for Irish Water as it was for ESB way back then albeit of a different nature. Because of the success, up to a few years ago, of the education model we employed in this country, the communications model will need to address a highly educated population and explain to Industry, Customers, Staff in the Local Authorities, Trade Unions and other Stakeholders just why the change is going ahead, how service will be better, explain the funding model so crucial to the ultimate success, and the transition arrangements etc etc. And all of this needs to be both accurate, timely and convincing to avoid a chaotic transition. Let's ask ourselves - how well have we started ??

The ESB built Ireland's electricity infrastructure – Irish Water is taking on the water infrastructure – some of which is creaking, leaking and indeed is older than the State itself, with some pipes having been first laid during the Victorian era.

Electricity was a new animal back then – nowadays we take power for granted every time we flick a switch whereas in rural Ireland in the forties and fifties, they didn't miss what they never had.

We can say the same for water – years ago people drew water from wells until the water schemes and local authorities assumed responsibility for installing the water treatment and supply network. Now the citizens of Ireland turn on their taps and think no more about the origin of the water and the treatment it has been through to flow conveniently into their glasses or kettles, baths or showers.

But, interrupt that service and they will take notice.

So the transfer of assets – both the infrastructure AND the expert knowledge of the engineers and other technical staff - from the local authorities and engineering consultants into Irish Water needs to be carefully managed to ensure that WE, the State, get a valuable return on our investment. I have gone on record before and am happy to do so again in recognising the superb work done down through the years by Local Authority Staff and Engineers who have maintained an excellent service in supplying water in the face of limited funding from successive Ministers - one must assume largely because votes don't attach to an unseen infrastructure.

Defining the cost

A lot of the debate around the establishment of Irish Water has focused on the cost of water metering to the consumer. In fact unfortunately these media stories have seriously deflected from the **real issue** and **opportunity**. As business leaders we need to focus on the cost to Ireland if our water supply is deficient or contaminated.

When we have recognised what wholesome water, in plentiful reliable supply, is truly worth to us, then we must aspire to excellence, in protecting and conserving what we enjoy. The message **must be communicated** by those in key positions, and our politicians must take a lead here, to everybody just how critical for Ireland's economy, job creation and our FDI model, our water resource and a properly functioning water infrastructure is.

We need to prepare for a paradigm change in the way the word 'value' is applied to water. What would we exchange, to avoid waterborne disease in our towns and cities, or to avoid rationing water? We have little or no experience of these when compared with other countries - for the most part we are happy to drink the water coming from our taps, yet when we go to other developed countries on vacation we invariably wouldn't dream of doing so. Yet we just take the service for granted and never appreciate the expertise, effort and technology that goes into it here at home. Recent severe weather events reminded us of just how valuable our water services are.

If clean, plentiful water supply is woven into the Food Harvest 2020 Ireland 'brand', what is the 'value' to us, of aligning world class food production, with a world class level of care and conservation of the water that sustains it? Global industry now chooses quality locations to manufacture, around their own developed corporate concepts of responsible wealth creation, where **reputation** is everything. What is the value, to **them**, of being able to say, that their potable water inputs are ethically procured, are as excellent as their products deserve, and that their agents for wastewater treatment aspire to the same high standards, as their own branding requires.

In essence our national reform agenda must have a multiple focus:-

- Provide the structures for the effective management of the nation's water resources and
- Provide the basis for an efficient utility organisation with a sustainable funding basis to ensure world class water services are provided across the nation
- Provide opportunities and career paths for the professional engineers who will deliver the product and service and without whom it won't happen

Economics

Ireland's socio economic development is critically dependent on sustainable, secure, high quality and cost effective water supply and sewerage services. The historical development of modern water services in Ireland in the late 19th century brought **immediate benefits by transforming** public health, eradicating waterborne diseases previously endemic and arresting the degradation of urban rivers from raw sewage discharge.

With the advent of hydro-electric power, more plentiful water supplies became available in conjunction with electricity, to enable the rapid economic progress evident in gradual industrialisation, increasing population and raised standards of living.

The accelerated economic progress of the last 20-30 years has been achieved on the back of large-scale foreign direct investment in microelectronics, pharmaceuticals and bio-engineering for example, the development of modern food processing, tourism and other value added enterprise. This development has been made possible by investment in water services capacity both water and sewerage, including achievement of rigorous environmental standards. We must continue to hammer

home the criticality of an available and effective water infrastructure for the targeted Agri-food, Biopharma and ICT industries - all areas for significant job creation in the future.

In 2012, as Ireland looks to economic recovery, world class water services are recognised as critical to sustainable recovery having regard to the further expansion of the FDI sector, food production and tourism potential; the anticipated population growth, inward migration and recovery in standards of living. Additionally, higher environmental standards to meet the EU Water Framework Directive objectives must be complied with while meeting the capacity needs.

A 2011 Deloitte reportⁱ addresses water scarcity as a critical issue affecting investment choices across the world. Its introduction notes that “water is a strategic resource for most global businesses”, recognising that population growth, water pollution, climate factors and the drive for economic growth are collectively leading to greater “competition” for the finite fresh water resources available to society. Water scarcity is a key business risk requiring a major water stewardship effort and innovation in use of water. Of course it's availability can be a HUGE Opportunity. Given this pressure on water security affecting large areas of the world - Australasia, the Middle East, Southern United States, Southern Europe, and parts of Africa - Ireland has a **unique** opportunity for economic growth in the context of sustainable water resources - and indeed renewable energy resources.

Ireland's average nett 'export' of rain to rivers, lakes and groundwater storage is some 450mm per annum, having allowed for evaporation and the water required to promote plant growth. With limited requirement for artificial crop irrigation unlike food production in arid climates, Ireland can harness its massive renewable water resources to meet forecast socio-economic needs while ensuring a sustainable water environment. This opportunity requires a **coherent national policy** with certainty around the funding model (including 3rd party funding) providing for balanced water resources management across the country and making strategic provision for socio-economic needs for a 20-30 year planning horizon. The lengthy timeframe for planning and implementation of major new water supply schemes and wastewater facilities makes such forward-planning imperative.

Asset management in water services in Ireland

An asset management centred approach to water services provision is recognised internationally as providing an **optimum approach** to balancing the needs of consumers, capital investment decision priorities and operational management. It **supports integrated decision making** in the management of water services assets from cradle to grave, taking a long term view on how service objectives can be met at lowest cost. It focuses on sustainability, meeting present needs, without compromising future generations. **All decisions should involve due consideration of impacts throughout the life cycle of an asset.**

Asset management planning, therefore, is focussed on meeting service standards through management of all of the assets under the control of the utility in support of:

- Economic growth hinging on secure reliable water and drainage infrastructure
- Regulatory requirements to justify expenditure, both opex and capex and
- Higher customer expectations and greater public scrutiny of corporate governance.

A pre-requisite to asset management planning is availability of accurate and reliable information on the nature, capacity, condition and performance levels of sector assets. These must be available in a form where they can be analysed for their ability to satisfy additional demands, higher standards or other performance criteria which the Regulator will inevitably require as we move on.

In contemplating the asset management challenge for Irish Water, it is essential to mobilise all of the available data, verified as far as possible. Engagement of key local authority staff and their consulting engineers at the outset of this process to identify, collate, validate and integrate these GIS datasets is an urgent priority for Irish Water.

LEGAL Aspects of Irish Water

Another critical factor in the success (and lets contemplate nothing short of total success) of Irish Water will be how the legal entity is given legal effect to go about its day to day work and its capital programme into the future. A number of models have been undertaken in Europe in the last number of decades.

Some of the local authority infrastructure predates the State – the local authorities and the State have funded the current infrastructure for over 120 years.

In Scotland the local authorities owned and operated water services. This was then moved to the three regional authorities and from there to a single State entity or publicly owned utility similar to what is intended in Ireland. One of the issues in Scotland is that the local authorities have to build up expertise in flooding and water services for **the interface issues** that arise all the time with the local authorities and the utility.

The transfer of assets will need to be clear and to what level they are being transferred. If it is to be “all - as in lock stock and barrel” the legal mechanism will need to be agreed and discussed. The Scottish model transferred all assets and liabilities by legislation. The transfer of assets and liabilities to the new utility and lead in times will require definition and need to be dealt with in law and without unnecessary delays.

The existing assets and their current use and staffing can be dealt with by the use of a service level agreement (SLA) between the new utility and the local authorities. The nature and duration of these SLAs could be key to the successful transition as they will by their very nature need to recognise:-

- the concerns of the existing staff in the LAs,
- make provision for the role to be played by the Regulator, who will, depending on the duration of the SLAs be requiring constant improvement in performance indices
- have inherent capability to support regional coordination and benefits of scale in efficient delivery of capital investment, leakage reduction programs, use of IT and building up process support capability as well as supporting the asset management function
- and take cognisance of the current and future availability of skills to deliver the service both within IW and those remaining within the LA structure.

If working effectively there is no reason why this approach couldn't eliminate any potential IR issues.

At present the water service authorities (namely the local authorities), while in name are utilities, cannot act like one. In particular the public are unwilling to pay a bill to local authorities and the water service provider cannot, in reality, cut off the supply for non payment. Most people appreciate that water is not like other utilities such as phones, electricity and gas in that water is an essential contributor to life and public health and is a “different commodity” to that delivered by the other utilities. The water service authority **can** cut off the water source following a torturous convoluted legal process for wasting water or it can restrict supply with a restrictor to provide a minimum requirement for water for “essential purposes”

The role of consulting engineers

As I previously mentioned, consulting engineering firms have played a historic role in developing Ireland's water services. Most of the indigenous firms in the sector were formed in the early decades of the 20th century around water and wastewater engineering as their principal business areas. As such, the archival records of groups like the Association of Consulting Engineers and the embedded knowledge provides a wealth of information, experience and expertise, which will be of enormous value to Irish Water, if effectively harnessed.

The knowledge base available covers the evolution of water services across Ireland from beginning to end and all stages in between.

Along the way, consulting engineers have developed feasibility studies and preliminary reports, setting out the business case for meeting future needs. Extensive GIS and network capacity models have been developed and provided to local authorities. These engineering firms have also assisted in developing leakage reduction strategies, designed and supervised District Meter Areas set-up, facilitated training in leak detection, demand management and analysis and supported local authorities in all areas of water conservation including mains renewal programmes.

Many strong relationships already exist between **Ireland's** engineering consultants and local authority engineers as they work together regularly throughout Ireland on water and wastewater infrastructure projects. Now is the time to exploit these relationships to maximise data capture and evaluation in

support of both capital works planning and efficient operation, the development of asset management systems and in support of due diligence assessment.

Local authority engineers

And finally to the role of the local authority engineer in this whole process.

It is recognised that the majority of people are not concerned with who provides their water, only that it is **available**. When you consider the fact that there is no direct payment by the public for this service at a local level, then the **quality** of the delivery of that service is very much dependant on the unds received from central government, any additional monies the local authority may provide from its own finances and most importantly the age of the infrastructure. It is under these constraints that a local authority engineer has to operate on a daily basis. Maintaining the optimism and morale of a team when it takes 10 to 15 years to implement infrastructural projects of any significance which will provide the solution to a problem is a constant challenge for any county or city manager or engineer.

Throwing in uncertainty with regard to their future role does not help that mix. However, the development of a dedicated water services utility, becoming self funded over a finite period, provides the opportunity for exciting and rewarding careers in the sector in asset management, operation, investment planning, capital delivery, etc.

Flooding and cold weather have been the events which have brought the local authorities to the public attention in recent times. These present real challenges to water services providers, expose weaknesses in the assets or resources, and require critical consideration in asset planning. Climate change along with population change / migration patterns are recognised as the 2 great challenges to be addressed by the water industry (in UK) in the next 20 years. Vulnerability of water assets, for example being able to access and operate them during extreme floods, is a critical issue for water planners.

Today's society depends on a potable water supply and robust flood defences to protect that supply and the energy infrastructure needed to deliver fresh, clean water to households. I reiterate that this critical infrastructure (and there is always a positive payback on critical infrastructure) is essential to ensure continuity as we know it.

Engineers regularly develop strategic plans for infrastructure to operate over a further 80 to 100 years. In order to provide this infrastructure it is essential that appropriate design parameters are defined. This can only be achieved by engineers coordinating and participating in the research of disciplines such as meteorology, hydrology, hydrogeology and other scientific environmental areas.

The improvements in Ireland's water supply have been achieved by the engineers in the local authority who identified what needed to be done, how best to achieve it and did it. Projects were identified by scale and complexity and then procured on the basis of the availability of the best skills. The greater number of water infrastructure projects were designed and supervised by engineering consultants but these consultants needed to be managed by in-house LA engineers in order to ensure the passage of a project through the approvals stages of planning, local councillors and Government departments in the shortest possible time.

Over the past decade technology, weather patterns, climatic events etc etc has increased the knowledge that is now at the finger tips of the average local authority engineer. Let us not forget that this engineer is a CRITICAL 'asset' in the value chain.

Conclusion

I hope what I have talked of today illustrates the challenges that we - as a nation - and Irish Water - face in transferring the assets and knowledge into a single entity. And how critical it is that we maximise the return on those assets to ensure the best return for the State and its citizens.

I could also have referred to the challenges associated with:-

- the skills required in the CER office and their critical role in a balanced and supportive way but yet independent pursuit of what's best for the customer
- the wider Local Government reform agenda and the potential minefield here

- balancing the European Court of Justice overhang and the challenge of meeting our commitments under the Water Framework Directive with critical Capex in an environment of limited funding
- the fascination with Metering as opposed to Billing and the distraction this could or perhaps has become
- BGE's reputation
- the panel of Contractors - how they are chosen and assessed
- the relationship between what remains in the LAs and what transfers to IW and the management of the boundaries
- the Water Framework Directive and our obligations and their implications
- the role of the EPA
- the OPPORTUNITIES

We now have **one** opportunity to do the right thing right, 1st time, here - something we appear to have lost sight of when the tiger arrived. We can't afford to miss the opportunity.

But before I conclude, let me say a word about skills and proven competence and our Chartered Engineer Title - the only independent verification of engineering competence in this country. We at Engineers Ireland applaud the requirement for people with proven competence being required to complete a wide range of functions, such as architects, electrical contractors, gas installers, medical professionals - doctors, physiotherapists and nurses - accountants, lawyers, pharmacists etc - in their chosen fields. These are now largely statutory requirements and rightly so. This protects the customer and society at large.

Why don't we have a similar requirement for engineers? I have outlined for you today the importance and potential impact of the work done by engineers in the provision of water and the importance of water to the economy and indeed life. Is not the need for such insistence on proven competence all the greater? I call on Government to work with Engineers Ireland to help raise the overall standards of all engineering services in this country by transitioning to a situation where only independently verified competent engineers can sign off on projects that have a potential health, safety or environmental impact and tangibly demonstrate their commitment to the highest quality and standards by insisting on the need for Chartered Engineers in all Department, State, Semi State and Local Authority engineering promotions.

Engineers belong at the heart of Irish Water. We want the best and brightest in our profession to be able to provide the finest water supply service in Europe to Irish citizens.

At the beginning of my talk I spoke of the legacy of the early visionary founders of the ESB that ensured we – the citizens of 2012 – had a reliable and competitive electricity supply.

Let us ensure that the water infrastructure we leave behind is a legacy for the citizens of 2112.

Thank you.

John Power
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Director General

ⁱ Carbon Disclosure Project (CDP) Water Disclosure Global Report 2011